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THE IBIS,

A

QUARTERLY JOURNAL OF ORNITHOLOGY.

EDITED BY

OSBERT SALVIN, M.A., F.R.S.,

STRICKLAND CURATOR IN THE UNIVERSITY OF CAMBRIDGE, &c.

VOL. IV. 1874.

THIRD SERIES.

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PREFACE.

The last three numbers of this Journal (including the Supplement) of the past year, and the first two of the present, were edited by Mr. P. L. Sclater whilst I was absent from England for fourteen months. In relieving me of a duty that I must otherwise have relinquished, and adding it to his own manifold engagements, Mr. Sclater has evinced, were such token necessary, his unflagging zeal for the welfare of 'The Ibis,' for which the Members of the British Ornithologists' Union, as well as myself, owe him our best thanks.

It will be observed that the "Index to the Ornithological Literature," appended to each of the previous volumes of the Third Series of this Journal, has been omitted in the present. This has been done at the generally expressed wish of the Members of the Union. The change, I regret to say, involves a considerable hiatus in the record of current ornithological literature between the commencement of 1873 and the present time, which I have not seen my way to avoid. If what is past cannot be remedied, it remains to me in future numbers to render as complete as possible in some other form this very essential portion of our Journal.

OSBERT SALVIN,
Editor.

6 Tenterden Street, Hanover Square.
September 1874.

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1872.	Prof. Carl Johann Sundevall, *Stockholm.*

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* Erroneously written *D. baylei.*

† Erroneously written *R. fulva.*

ERRATA ET CORRIGENDA.

Page	Line	
3,	23,	for *H.* read *P.*
44,	36,	*for* CAUDATUS *read* ECAUDATUS.
99,	18,	*for* northern *read* southern.
104,	30,	*for* HERODIA *read* HERODIAS.
145,	Plate VI.,	*for* BAYLEI *read* BAYLEII.
,,	23,	*for* 112 *read* 119.
156,	30,	for *trivirgatus* read *trivirgata.*
176,	19,	for *robiginosa* read *rubiginosa.*
177,	34,	for *elioti* read *ellioti.*
198,	Plate VIII.,	*for* FULVA *read* FUSCA.
257,	35,	*for* RECURVIROSTRIS *read* RECURVIROSTRA.
273,	6,	*for* ?" *read* "?
279,	23,	*for* Finch *read* Finsch.
288,	9,	*for* Eastern as *read* as Eastern.

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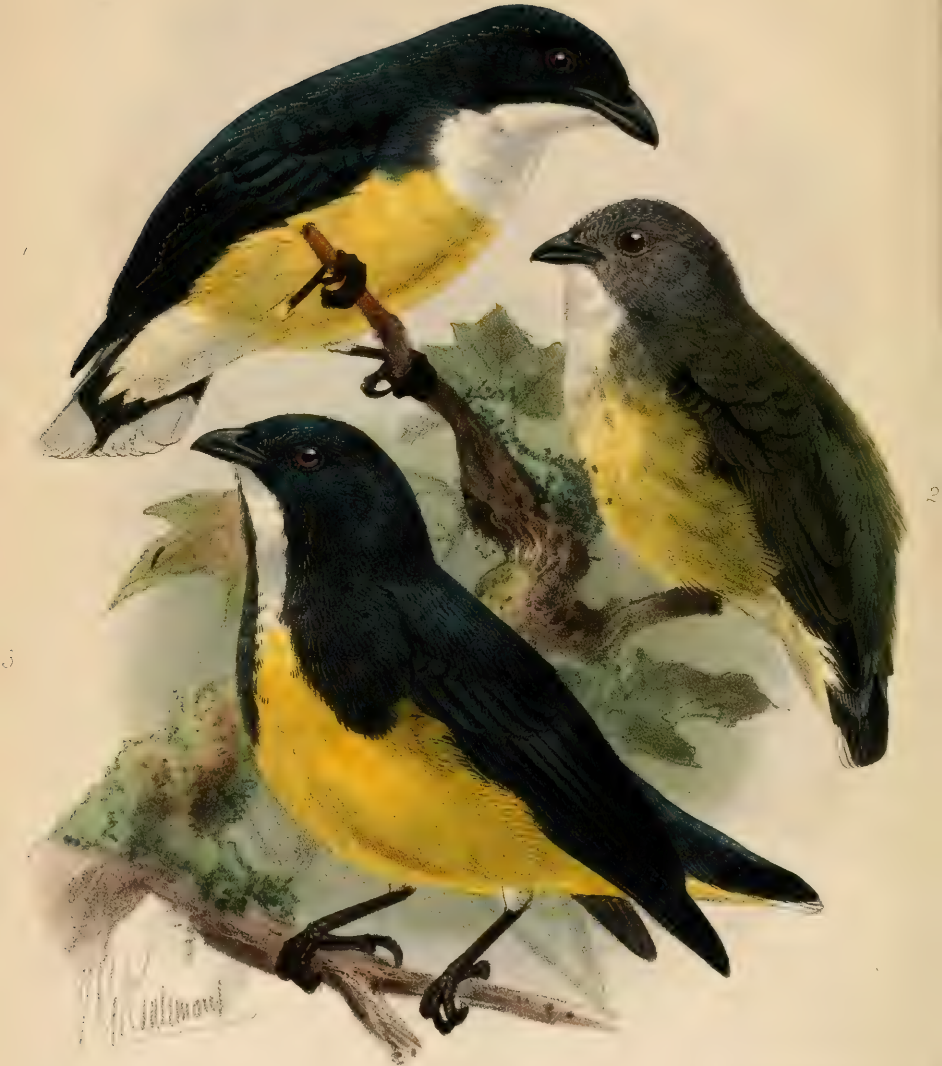

J.G.Keulemans lith.

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1. 2. PRIONOCHILUS VINCENS ♂. ♀.
3. P. MELANOXANTHUS

THE IBIS.

THIRD SERIES.

No. XIII. JANUARY 1874.

I.—*On the* Prionochili *of British India.*

By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plate I.)

The genus *Prionochilus* was established, in 1841[*], by the late Mr. Strickland for the reception of the birds described and figured in the 'Planches Coloriées' of Temminck, as *Pardalotus percussus* (Pl. Col. 394. fig. 2), *Pardalotus thoracicus* (Pl. Col. 600. figs. 1 & 2), and *Pardalotus maculatus*. Mr. Strickland considered the affinities of this group to be with *Calyptomena*, "which it approaches in the structure of the beak and feet much more nearly than to *Pardalotus*." The name was derived from *πρίων*, a saw, and *χεῖλος*, a lip, in allusion to the minute serrations of the margins of the beak, which, however, are scarcely visible in some of the species without the assistance of a magnifying-glass[†].

In 1865 Mr. Wallace described and figured[‡] a beautiful new species of the genus from Northern Celebes under the name *P. aureolimbatus*; and more recently Dr. Salvadori has characterized another, from Borneo, as *P. xanthopygius**.

---

[*] P. Z. S. 1841, p. 29.

[†] Somewhat similar serrations occur in certain *Euphoniæ* (Tanagridæ) and in the Trochilidine genera *Grypus* and *Androdon*.

[‡] P. Z. S. 1865, p. 477, pl. xxix. fig. 1.

Thus far *Prionochilus* had been considered peculiar to the Malayan subdivision of the Indian Region, Celebes being debateable ground between that and the Papuan fauna. Last year, however, Lieut. W. Vincent Legge, R.A., a well-known worker in ornithology, sent me a pair of birds obtained in Southern Ceylon, which I at once recognized as belonging to this genus, and for which, at the Zoological Society's meeting on the 18th of June, I proposed the specific name *vincens*, in honour of its discoverer†.

Mr. Legge gave the following description of his bird:—

"*Male.* Length $4\frac{3}{20}''$; tail 1·2″; wing 2·3″; tarsus ·5″; mid toe with claw ·5″, hind toe $\frac{5}{20}''$; bill to gape $\frac{9}{20}''$, at front nearly ·4″. Third primary longest, only slightly longer than second.

"*Descr.* Iris reddish; bill, upper mandible black, lower mandible lightish at the base; legs and feet blackish brown; entire head (except the chin and throat), hind neck, back, rump, and lesser wing-coverts dull steel-blue, palest on the rump, and with the bases of the feathers dark; quills blackish brown, the basal portion of inner webs, with the under wing-coverts, white; tertiaries, greater wing-coverts, and tail black, the former edged with the hue of the upper surface, the latter with the three outer feathers white towards the tip, the colour extending a little up the shaft on inner web, the next two with a small terminal white spot; chin, throat, and chest white, below which the under surface is saffron-yellow, paling at the vent; under tail-coverts white, edged pale yellow.

"*Female.* Length 4·1″; wing $2\frac{5}{20}''$; tail 1·1″. Bill slightly lighter in hue than ♂; legs, feet, and iris the same as ♂; head and hind neck faded bluish ashen, centres of feathers dark; back olivaceous brown; secondaries and wing-coverts brown, edged with olivaceous; quills lighter than in the male; sides of neck and chest ashy beneath, paler yellow than the male, mingled with grey on the flanks; tail brownish black."

"*Hab.* Forests of the low hills in the southern province, where it affects principally the creepers which entwine the trunks of the trees; resorts also to small branches of low trees.

---

* *Cf.* Ibis, 1872, p. 379.

† P. Z. S. 1872, p. 729.

"*Food.* Seeds and pollen from the flowers of creepers."

When examining Mr. Vincent Legge's skins of this bird it struck me that a little-known Nepalese type of Hodgson's, described by Mr. Blyth in 1843 as *Pachyglossa melanoxantha*[*], might have something to do with it. Upon reference to the British Museum Mr. Sharpe informed me that he had lately obtained for the national collection a fresh specimen of this rare species, which had escaped nearly every subsequent collector, including even Jerdon himself[†]. On comparing this specimen with Mr. Vincent Legge's skins, there remained no doubt of their being nearly allied, although distinct species. In all essentials of structure the two birds are exactly similar; and *Pachylossa* is therefore merely a synonym of *Prionochilus*, of which two species must now be attributed to the fauna of British India, viz. *Prionochilus vincens*, of Ceylon, and *P. melanoxanthus*, of Nepaul.

Our illustration (Plate I.) represents both these species, neither of which has been previously figured, of the size of life. Figures 1 and 2 represent the male and female of *P. vincens* from Mr. Vincent Legge's specimens, and figure 3 the above-mentioned example of *H. melanoxanthus*, lately acquired by the British Museum, which is probably a male.

The latter species is readily distinguishable from its Nepalese ally by its smaller size, by the white extending over the whole of the throat, and by the white rump.

---

[*] Journ. As. Soc. Bengal, xii. p. 1010. This name is commonly credited to Hodgson. By reference to the original passage, however, it will be seen that the bird was described by Blyth, although he attributes the name to Hodgson. The single specimen obtained by the latter appears to have been lent to Mr. Blyth at Calcutta, and subsequently removed to the British Museum, where it now is, mounted in the gallery. See Cat. Hodgson's Coll. in B. M. (1846), p. 60.

[†] See Jerdon, B. of India, i. p. 378.

II.—*On a large Fossil Egg from the neighbourhood of Cherson.*

By Dr. ALEXANDER BRANDT*.

A SHORT time since, Herr E. Dobrowolsky offered to sell to me for the zoological museum of the Academy an apparently very remarkable egg. As regards its purchase the Direction of the museum could do nothing, since the sum asked (1000 roubles) was by no means suitable to the very moderate means of the museum. Herr Dobrowolsky was nevertheless so good as not only to assist me in describing the egg by permitting me to make an accurate examination of it and by giving me the necessary particulars as to its discovery, but also to allow me to have a plaster cast prepared of it.

The egg is stated to have been found, at least fifteen years ago, at Malinowka, in the province and district of Cherson, in an ancient watercourse or so-called "balka." In a small stream traversing the old watercourse below a wear, the spring floods falling over the latter washed out a channel, from the bottom of which the egg appeared. Being observed by some peasants it was taken up and given to Hr. N. S. T. Malinowsky, an uncle of our informant. The soil from which the egg came was described as a reddish-brown frangible loam, beneath which lay crystalline gypsum. The egg is at present in the possession of Hr. Ssemen Dobrowolsky, the father of my informant, a landed proprietor in the province of Cherson.

I now add a short description of this apparently remarkable egg.

The form of the egg is so nearly that of a regular ellipse, that it is diffcult to tell the big end from the little. Yet we may assume the end recognizable by its somewhat less smooth shell to be the big end—a conclusion supported by the well-known ornithologist Herr W. Meves, in whose company I had the pleasure of examining the egg, inasmuch as he has frequently noticed that in birds' eggs generally the big end has a rougher texture. The egg has on the whole most resemblance to certain examples of the Ostrich-egg (*Struthio camelus*), which, however, vary excessively in form. Compared with the egg of *Æpyornis**, of which our museum has a plaster cast received from Paris, the present egg is somewhat shorter and more rounded—its short diameter being to its long as 1 : 1·2, while in *Æpyornis* the corresponding proportion is 1 : 1·3.

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* Read before the Imperial Academy of Sciences of St. Petersburg on the 5th of September 1872, and translated from the 'Bulletin,' vol. xviii. no. 2, p. 158, *et seq.*—P.L.S.

In respect of size the fossil egg far exceeds the largest Ostrich-egg, without, however, rivalling, except in the most distant degree, that of the *Æpyornis*. Its long diameter measures 18 centimetres, its short 15 cent. (from which the above-mentioned proportion of 1 : 1·2 or 5 : 6 results). The longer circumference measures 52 cent., the shorter 46 cent. The volume was estimated at 2200 cubic centimetres. We may therefore calculate its contents to equal those of from 40 to 44 hen's eggs of ordinary size. For comparison I may remark that the largest Ostrich-egg I could find measured 16 cent. by 13·5, and gave a volume of 1350 cubic cent. (equal to from 25 to 27 hen's eggs)†. The volume of the *Æpyornis*-egg is said to have been reckoned to be equal to that of 148 hen's eggs.

The surface of the egg under the microscope, particularly on one side and near one pole, shows a decidedly rough or bunchy appeaaance, besides in many places irregularly directed crooked-running shallow scratches, which from their habitus give the idea of very fine vessels on the inner side of the shell, as also deep sharply defined pits, as if made by a blunt needle. These last appearances are especially noticeable on the smoother parts of the egg, and represent in a larger proportion the needle-prick-like pits on the eggs of the Ostrich.

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* Prof. Brandt spells this word *Epiornis*, as originally written by Isidore Geoffroy St.-Hilaire, the founder of the genus. But the derivation being from *αἰπύς*, there can be no question of *Æpyornis* being the correct orthography.—Ed.

† According to Thienemann an Ostrich-egg is (in volume) equivalent to about 30 hen's eggs. ('Fortpflanzungsgeschichte d. gesamm. Vögel,' Leipzig, 1849, p. 6.)

The colour of the egg is a yellowish brown, which is not, however, equally spread over the whole surface, but in patches brighter here and darker there, and hardly represents the original colour. Still less are numbers of blackish dendritic spots irregularly spread over the egg to be reconciled with its original colour. These are certainly either really dendritic, or the remnants of a parasitic vegetation which is often met with in fossil remains.

Of the thickness of the egg-shell nothing definite can be ascertained, since the egg is quite intact, except as regards two cracks, of a hair's breadth, said to have resulted from an attempt to ascertain the contents. In one place a hardly perceptible splinter has been taken off; but the fracture is so thin that it does not extend through the thickness of the shell, and only shows its hard enamel-like substance.

The perfect state of the egg when found proves that it must be empty, and not filled with mineral substance. This is the cause of its weighing so little as to have been swimming in the river when discovered. According to Herr Dobrowolsky's information it weighs about 200 Russian pounds.

According to Eichwald*, fossil remains of birds are very scarce in Russia, although v. Nordmann has discovered some in a tertiary loam near Odessa† (that is, not far from where this egg was found). But as to what genera these bones belong to we find no information recorded.

The above-described form of this egg-shell, as well as its dimensions, lead us first to think of a Struthious bird which in size must have exceeded the Ostrich. This, however, is not the first gigantic bird recorded of the Tertiary epoch of Europe, since fifty years ago remains of such a bird were found in our quarter of the globe—namely, those of *Gastornis parisiensis,* of the Eocene of Meudon, near Paris, allied to the Swimmers and Waders.

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* Lethæa Rossica, Stuttgardt, Bd. iii. 1853, p. 325.

† "Ub. d. Entdeckung reichhaltiger Läger von fossilen Knochen in Süd-Russland," Jubilæum semiseculare Fischeri de W. (fol. Moscau, 1847), p. 9.

Since, as is mentioned above, the characters of this egg appear with great probability to indicate its belonging to the Struthious group, I propose to call it, with reference to the unknown gigantic bird, *Struthiolithus chersonensis**.

III.—*On the Distribution of Birds in the Southern Hill-region of Ceylon.* By W. Vincent Legge, Lieut. R.A.

The southern province of Ceylon possesses a range of mountains of its own, quite distinct from the central zone, inasmuch as it is separated from that region by a long strip of low country extending from the western province, on the south of Ratnapoora, through, in an easterly direction, to the flat and jungle-clad plains of the south-east of the island. The system commences at the eastern boundary of the Morowa Korle†, at a point thirty miles north of the southernmost extremity of the island (Dondra Head), and, after shooting up at once from the plains of Hambantotte and culminating in its highest point, 4500 feet, stretches away in a westerly direction to a point some twenty miles from the sea on the west coast. The river Gindurah rises in the highest portion of the range, and takes a westerly course, separating it into two parts by a deep valley, in the north of which numerous spurs shoot out into the Saffragam district, while on the south the higher mountains are supplemented by many smaller parallel-lying ridges, which again break into an endless succession of smaller hills, dwindling down until they form the undulating country in the immediate vicinity of Point de Galle. The south-west *corner* of Ceylon may therefore be said to be a perfect labyrinth of hills, clothed in their highest parts with lofty primeval forest, except where the axe of the mountaineer has left its mark in the course of hill-grain cultivation, and covered in the lower districts with secondary or scrubby jungle, in the composition of which the small bamboo (*Ochlandra*

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* Subsequently Professor Kessler has informed me that he had this egg in his hands some years ago, and attempted unfortunately in vain to acquire it for the zoological collection of the University of Kiew.

† "*Korle*" corresponds, as a terrestrial division, to *county*.

stridula) enters largely. On some of the lowlands near the sea, and on the banks of the rivers, as also in the valleys of the lower hills, paddy-fields exist; but there is but little land under cultivation compared with other parts of the west coast, the consequence of which, together with the want of "tanks" and inland waters, is that grallatorial and natatorial forms are by no means abundant. The climate of these hills is much cooler than that of corresponding heights in the central province, owing to their propinquity to the sea, and to their being therefore exposed to the full sweep of both monsoons across the south of the island. This is especially demonstrated in the distribution of birds in the main range, where, with some few exceptions, all the species inhabiting the higher parts of the central zone are to be found in numbers, while, again, many that inhabit what may be termed the intermediate hills of the central province at an average elevation of 2000 feet, affect, in these parts, the low forest-clad hills down to within 200 feet of the sea-level. This latter fact is due, perhaps, more to the presence of jungle-clad hills of considerable altitude in the immediate vicinity of the sea-coast than to the effect of climate.

As the locality under consideration has never before been explored by ornithologists (at least so far as the wild interior is concerned), I propose to notice all the birds found in it, except a few, which are so universally distributed over the island that their presence here needs no comment, and to touch more particularly upon those which have not been noted previously from this district, and which affect it chiefly owing to the influence of climate and the above-named features of the soil.

Commencing, in due order, with Raptorial birds, which, so far as some species are concerned, are very well represented, I would note that *Neopus malaiensis* inhabits the forest-hills and valleys from within a few miles of the sea up to the highest parts of the main range. This peculiar form, the largest of our Raptores, is not common in Ceylon; and this district may be considered its head quarters. Layard procured it in the vicinity of Adam's Peak. It is exclusively a hill-forest bird; at times it may be seen quietly skimming over the high trees of a mountain-side, while at others it soars in pairs, nobly, over some deep valley. *Spilornis cheela,* the commonest of our Aquilinæ, is distributed over the whole island, but in the south is more numerous in the hills than near the sea. In the lowlands it skulks much about open clearings in the jungle or along the edge of the swampy flats, and feeds chiefly on snakes, which it swallows, in some instances, nearly whole. It appears to average smaller dimensions than in India, males not measuring more than 23 inches. The lower plumage is noticeably darker or richer after the moult. Young birds have the crest-feathers almost entirely white, the tips only being black and not concealing the main portion of the feather when the plumage of the head is in its normal state; when the crest is erected in anger or surprise the head has the appearence of being white, mottled or spotted with black. *Limnaetus cristatellus* is more plentiful in the low hills than in the mountains, extending to the neighbourhood of the sea-coast, where, however, it is very local, confining itself to some chosen steep forest-side or secluded valley. It breeds within a few miles of Point de Galle, nesting always in the fork of a high tree. In the first state the plumage of the lower parts is not pale brown, as I have read, but almost entirely pure white, with occasional faint dashes of light sienna-brown on the thigh and under tail-coverts, which, in conformity with the coloration of the head and sides of chest and the drop-shaped markings of the flanks, become much darker as the bird grows older. It is a most docile though withal fiery-tempered bird in confinement; a fine example, which I reared from the nest, and which I have still, is on the best of terms with several Raptores, tenants of the same aviary. The crest, which was distinctly visible when the bird was a "chick," in the shape of three or four little filamentous appendages attached to the white down of the nape, would not appear to attain to a greater length than 2½ inches during the first stage of dress. The well-known scream of this Eagle is exceedingly weak compared with what it sounds like when heard in the forest, the reason for its being audible at a distance lying in its shrillness and great clearness. I have seen but one or two examples of *Milvus govinda* on the south coast; but *Haliastur indus* is exceedingly numerous everywhere, breeding on high trees some distance inland. It is noticeable with what ease this bird indulges in its favourite habit of eating its food from the talons when flying about: these members are brought forward under the breast; and, with a combined backward and upward pull from the legs and shoulders respectively, pieces are torn from the booty with but little exertion. While skimming along they sometimes pick off a luckless *Calotes* very cleverly, which has happened to be indulging in a bask on the topmost twigs of some low tree. The noble *Blagrus leucogaster* is sparingly distributed in suitable localities round the south-west corner of the island; but the flat shores of the Kattregam district are its great haunt. *Micronisus badius* and *Tinnunculus alaudarius* are pretty common, the latter, of course, only a winter visitor in immature plumage, in districts where there are sea-coast cliffs, in which it always roosts. *Astur trivirgatus* I have procured in immature plumage from the wooded hills on the coast some twenty miles north of Galle, and, I have no doubt, is to be found during the north-east monsoon throughout the district. *Elanus melanopterus* was an unexpected addition to my good things from the citronella-grass districts to the north of Galle. I had supposed it was chiefly a hill-species; but I also saw it much on the south-east coast; it hovers a great deal over long grass, like a Kestrel. *Poliornis teesa*, I think, has never been recorded from Ceylon; but a fine immature male came into my possession last October, which was killed on the sea-coast close to Galle. I have no doubt that when ornithology is more studied in this island and more birds preserved than at present, many members of Indian Falconidæ which have not yet been noticed, will be found to stray over the island when the prevailing wind is from the north.

Of Circinæ, the only two species that are common are *Circus swainsonii* and *C. æruginosus*; both affect by choice swampy lands and paddy-fields. The latter bird arrives in the south in the middle of October, and is very numerous close to the town of Galle. An exceedingly interesting series thus fell into my possession, from the white head to the adult grey wings and black primaries. I have not met with any birds entirely brown. The next stage of plumage to the buff-white head is the beautiful buff-marked least wing-coverts, which are accompanied by the golden iris and yellow cere and feet of the adult. During the north-east monsoon-rains in December these birds feed much on fish in the flooded flat lands of the south. I have shot them devouring large "lulu" fish more than a pound in weight.

Among the Strigidæ inhabiting Ceylon the common species in the south are *Ketupa ceylonensis* and *Ephialtes lempigi*, the latter being, of course, the most plentiful. I have kept this bird in confinement; and when angered it spreads out its wings, erects its "ears," and oscillates its body from side to side, uttering a low growl. Rufous varieties are very rare in Ceylon; but they do exist, a fine example having come into my possession last year. *Ketupa ceylonensis* breeds in hollow trees; the eggs are white, of a rather rough texture. They measure, axis 2·28, diameter 1·72 inches, and are hatched in the south at the end of February. I am of opinion that, although in suitable localities they *do* frequent the borders of inland tanks and rivers, and consequently feed much on fish, reptiles form their usual food. I have taken an entire snake, which had been swallowed intact, from the stomach of one of these birds. They are more numerous about the low hills near Galle than in our mountain-district. In all specimens that have come under my notice I have found the bill (contrary to Jerdon's description) to be *dusky greenish*, with a dark side-patch near the tip. *Athene castanonota* is here and there met with in the wooded regions of our province, but it is not plentiful. *Syrnium indranee* is by no means uncommon, inhabiting the primeval forest (styled in Cingalese "Mookalaney") at no great distance from Galle. It breeds in February and March; and since I have been stationed here I have been fortunate enough to procure from natives two nestlings, which are now in my aviary. The older of the two, which I have had nearly a year, has never once hooted or made any noise which would lead to the belief that it is the author of the dreaded sounds imputed to it. When hungry its note is a low screech, resembling the creak of a wheel-barrow in the distance; and when annoyed or chased by its companions in captivity it utters a curious *tit-tit-tit-tit.* On one occasion, after feeding at sundown, it gave vent to a low and somewhat musical noise, which seemed to proceed from the depths of its chest. There are therefore several inferences that might be drawn from my experience—that it does not hoot in captivity, that it is the male that possesses such extraordinary vocal powers (mine being a female), that it does not utter these sounds until it is quite mature, or lastly that the bird and the peculiar notes are *wrongly identified.*

Batrachostomus moniliger inhabits the low hills which are covered with thick jungle and bamboo-thickets. It has been procured at Amblangodde, about twenty miles north of Galle; and I have got a specimen in my collection which I shot a few miles from the town, near the celebrated village of Wackwelle. It is remarkably blind in the daytime, as are also the Australian *Podargi.* My bird was sitting *across* a horizontal bamboo, and allowed me to almost touch it before I became aware of its presence; it did not attempt to fly, but simply opened and shut its eyes, turning its head towards me, as I retired to a convenient distance to shoot it. It measured in the flesh 9 inches total length, tail 4·1, wing 4½, iris yellow, bill greenish brown, feet and tarsi fleshy grey, the former the darkest. *Caprimulgus asiaticus* and *C. atripennis* are very common; but the latter is the more numerous of the two: certain wooded localities in the low country, in which it is most plentiful, swarm with this bird. Just as the sun sets the first "kak-o-wa-wa" is heard; and this is the signal for a whole wood to resound with these peculiar notes, the bird being always *seated on a tree* at the time; after having carried on this concert for five or ten minutes, they sally out and may be seen alighting on the paths, and allow then a near approach. The largest males measure 11 inches, females 10·4 inches; and these, like *C. asiaticus, have the tail-spot on the two outer feathers of a dirty or yellowish white,* and less in extent than the males. *Hirundo hyperythra* is very numerous, and breeds in store-rooms and such places in the Fort of Galle, the nest being a very large structure with a spout-like entrance. *Collocalia nidifica* is numerous in the north-east monsoon about the neighbouring hills of Galle, and also in the Morowa Korle mountains. *Cypselus affinis* is a winter visitor to this region, being generally met with on close rainy evenings along the sea-shore, darting after the countless insects with which the atmosphere then swarms. *Acanthylis gigantea* is an inhabitant of the upper ranges of hills, and is found there at a much lower elevation than in the central province. It is numerous in the great hill-forest tract known as the *Singha Rajah* wilderness. In the evenings it appears in great numbers, descending, probably, from the immense heights where it has been hunting during the day, and dashes up and down and across the wild mountain-gorges with an incredible rapidity. *Dendrochelidon coronata* is plentiful here, and resident all the year round, affecting chiefly the sides of rocky wooded hills, particularly where there are dead trees, on which they pass much of their time. *Harpactes fasciatus* is found throughout the whole southern hills down to the forests of the low country. Of the three Bee-eaters of Ceylon, *Merops philippensis* and *M. quinticolor* are common, the former arriving here in September and rapidly spreading itself over the whole country to the highest parts of the hills, the latter resident on the rivers of the south-west to within twenty miles inland and breeding in June and July in the holes in the banks by the water's edge. These beautiful little Bee-eaters are numerous on the Gindurah river, and pass the day perched in the branches of tall trees near the bank, from which they sally out in quest of insects. The larger bird comes to this country for the greater part in young plumage, in most cases with either one long tail-feather or both the uropygials short. These would appear to be moulted one at a time, and one mature attenuated feather acquired before the second short one is dropped. It is noteworthy that this bird is more abundant in the extreme south than in other parts of Ceylon. On a rainy evening, when the atmosphere is alive with winged ants and other insects, these Bee-eaters congregate in large flocks over the Fort of Galle, uttering their curious notes and wheeling round and round in circles, out of which they dart every instant into the hosts of creatures which surround them. Of Kingfishers, *Halcyon capensis, H. smyrnensis, Alcedo bengalensis,* and *Ceryle rudis* are all that a most diligent search has rewarded me with. *Halcyon capensis* affects for the most part river-banks, generally betraying its whereabouts by its loud discordant cries. *Ceryle rudis* is plentiful on the Gindurah river and its tributaries, and breeds in February in the clayey banks, excavating a high vault at the end of the hole, and laying generally four eggs; the young, which differ from the adult in having the black pectoral band complete, remain in the nest for some time after they are able to fly, and, when they do come forth from their hiding-place, are often to be seen sitting huddled together on the grassy bank of the river.

Tockus gingalensis ranges from the highest down to the lowland forests, frequenting the tallest trees in them, and is more numerous in the latter than in the mountains or in any part of Ceylon that I have as yet explored. *Palæornis alexandri, P. rosa,* and *P. calthropæ* are the Parrakeets of this region; the former is only a straggler and is found in the neighbourhood of the sea. *P. rosa* is numerous from the low country up to the highest parts of the Morowa Korle, being found in the greatest numbers in the intermediate hills. Layard's Parrakeet is more abundant in the Morowa-Korle and the Leori-King forests than anywhere else in the island, and, like most of the Ceylon birds, ranges down to a lower elevation *here* than in other parts. I found it a few months ago in great numbers in the intermediate valleys of the Gindurah river, at a height of only 200 *or* 300 *feet above the sea.* They are very fond of thick groves in the forests, and in the morning, when feeding on their favourite fruits and berries, are very tame; towards evening they become very restless, and are constantly on the wing, settling in little flocks on the tops of the highest trees, roaming over the surrounding forests, as *P. rosa* does in the coffee-districts, and dashing up and down the mountain-valleys with amazing rapidity. Our little Lorikeet, *Loriculus indicus,* is exceedingly numerous, extending from the sea-coast, where it frequents cocoa-nut plantations, through the populated districts of the interior of the province, to the mountains, where its numbers diminish considerably. This is the reverse of what is the case in the central province and the intervening country between that and the west coast. It breeds in holes in the trunks of the "kitool," a sugar-palm, and feeds much on the "toddy" extracted from the flower of the tree. It becomes drugged with this substance, and numbers are caught by the natives, who bring them into the Fort of Galle for sale.

Yungipicus gymnophthalmus, Chrysocolaptes stricklandi, Brachypternus ceylonus, and *Chrysophlegma chlorophanes* form my list of Woodpeckers. The first named and *Brachypternus ceylonus* may be said to have their head quarters here; they are found (the latter in great numbers in the maritime cocoa-nut districts) throughout the lowlands up to the Morowa-Korle mountains, where, however, they become scarcer than at a less elevation. *Ch. stricklandi,* exclusively a denizen of gloomy forests, extends from the Singha-Rajah hills down to the jungles in the vicinity of Baddegamme, the mission-station near Galle. I have observed it very much on small trees, searching for its food; in the distance it would be taken for *Brachypternus ceylonus,* were it not for its different note and peculiar erratic movements while ascending the tree. The latter mounts up steadily a foot or two at a time, while Layard's Woodpecker is up and down, first to one side and then the other, with a little short jerky movement, which, to my mind, is sufficient to distinguish it. Of the Barbets of the south, *Megalaima zeylonica* and *Xantholæma rubricapilla* are numerous in the lowlands, and extend up to about 1500 feet in the hills. *Cyanops flavifrons* is very abundant in the Singha-Rajah hills and neighbouring districts along the upper Gindurah; it is likewise found in the low country not far from Galle wherever there is high forest; and there it frequents invariably the tops of the tallest trees, uttering its monotonous notes for hours together. It breeds in August.

Cuckoos are tolerably well represented here. *Cuculus son-*

nerati is rare in swampy wooded lands; *C. micropterus* is also rare in forests; and *Centropus chlororhynchus*, another denizen of the woods, has several times come under my notice both in the lowlands near Kottowe and in the hills of the Morowa and Kookool korles. The note of this shy bird is most extraordinary, resembling the dropping of a stone into a deep well, and is generally the only indication one has of its presence; for it is rarely or never seen. *Centropus rufipennis* and *Eudynamys orientalis* are, of course, very common. The former extends sparingly into the mountains. When uttering its singular deep-sounding note this bird turns the head on one side and darts it downwards at each syllable, the mandibles being opened wide, in order, as it would seem, to send forth the loud *ooop-ooop-ooop* with greater ease. *Zanclostomus viridirostris* is local, and skulks about the thick scrub growing on some parts of the sea-shore. It is very shy, and seldom allows itself to be seen for more than a minute at a time. The handsome *Phœnicophæus pyrrhocephalus* inhabits thick forest both in the low and hill districts. It betakes itself to the ground at times, though it is thoroughly arboreal in habits; when disturbed it proceeds in short flights from tree to tree with a creaking note like that of the European Magpie, elevating its tail as it alights on the branches. The difference in the eye of the male and the female is very remarkable; but I think there is no doubt about the matter (see my notes on the subject in last number of 'Stray Feathers'). *Polyphasia passerina* is rare in wooded districts of the low country, and concludes the list of Cuculinæ observed by myself in this district.

One little Creeper, *Dendrophila frontalis*, is abundant in the Morowa-Korle hills, and is at times met with in the neighbourhood of the sea-coast. *Tephrodornis affinis* is resident all the year round in this part of the island; and *Hemipus picatus* is common in wooded districts near Galle, as well as in the lower hills. *Dicrurus leucopygialis* is abundant near the sea-coast, and extends from that up to 500 or 600 feet. It breeds in the well-known "jack" tree, fixing its nest, which is a light cup-shaped structure of fine twigs and grass, in the angle of a horizontal fork or on a branch high up from the ground. The eggs are two in number, of a fleshy white ground-colour, clouded at the obtuse end with faint lilac and blotched over that, principally at the same part, with light brown; axis 11 lines, diameter 8 lines. *D. edoliiformis* (Blyth) and *Edolius malabaricus* (Scop.) are both found in the district; they are both inhabitants of forest entirely, extending from the Kottowe hills towards the Morowa-Korle mountains, the former ranging up to the highest points, and the latter confined, so far as I have been able to trace it, to the heavy lowland forests. The song of *D. edoliiformis* is powerful and melodious, but not so spirited as that of its long-tailed congener, and is generally uttered when the bird is disturbed or flying from tree to tree. It perches mostly on the upper limbs of trees, and sallies forth at passing coleopterous insects, very often returning to the same place and elevating its tail on alighting. On comparing a number of specimens I find that females are the smallest; my finest specimen measures 12·6 inches, with a tail of 6·7 inches, while males attain a total length of 13·9 inches. Immature birds have the under tail-coverts barred with white, and the under wing-coverts white-tipped. *Edolius malabaricus* is an extremely shy bird, and frequents deep tangled nullahs in the forest, being consequently very hard to procure. One individual in my collection, procured in the Kottowe forest near Galle, has the long tail-feathers only 5·2 inches longer than the rest, the bare portion of the "stem" measuring only 2½ inches; there is no appearance of these feathers being in the growing-stage; but Jerdon gives the length as 11 inches more than the others. Although this bird and the last mentioned appear to be sometimes confounded when the tail is not in the racket-stage, surely the two species ought to be distinguishable at all ages, on account of the crest of *E. malabaricus* falling back over the forehead, whilst that of *D. edoliiformis* projects forward over the bill; the long-tailed bird is also of slenderer frame, its rictal bristles are shorter, and the feathers of the neck are more hackled.

Of Muscicapidæ, the elegant *Tchitrea paradisea* arrives in great numbers, *in the brown stage,* in October, and affects by choice the banks of rivers. It is very plentiful along the Gindurah. *Myiagra azurea* is common in all jungles up to 3000 feet; but I have have not met with a *Cyornis* in all my wanderings, although *C. jerdoni** is found throughout the western province. I have only once met with *Leucocerca albofrontata,* procuring it at Baddegamme near Galle. *Myiolestes cinereocapilla* is found in the Morowa-Korle and Lion-King forests down to 2000 feet, where also *Eumyias sordida* is tolerably numerous. The young of this species are plumaged like those of *Cyornis jerdoni.* An individual I procured last August in the Lion-King hills has the upper surface and wing-coverts brown, with buff tips to the feathers; the chin is buff, and the lower surface, as in the adult, mingled with yellowish grey feathers.

Pitta brachyura, one of our most widely distributed cold-weather visitants, is exceedingly abundant, and heard in the mornings and evenings wherever there is a bit of scrub or jungle: they affect low "*cheena* jungle" in preference to damp woods; and on wet days their whistle may be heard at any hour. *Oreocincla spiloptera* is distributed through the Morowa-Korle jungle; and I have no doubt that *Turdulus wardii* is also an inhabitant of the same part. *Alcippe nigrifrons, Dumetia albogularis,* and *Pomatorhinus melanurus,* with *Layardia rufescens,* are all common birds in the lower hilly country, and, with the exception of the little "Pig-bird," are numerous in the hills. This curious little skulking babbler is chiefly found about bushes at the edge of "cheena" jungle, and darts along in a "follow-my-leader" style from one bit of cover to the other with great perseverance. I have found it in the central province in the upper parts of Doombera, at an elevation of 2500 feet. *Alcippe nigrifrons* is wonderfully abundant, particularly in bamboo jungles, its favourite abode; it is frequently found in company with *Pomatorhinus melanurus,* which affects the same localities. The curious massive bamboo or other dead-leaf nests which it constructs in such numbers are, I believe, made as roosting-places, as I have found hundreds and never yet saw one with eggs or young. They are placed in a bramble about three feet from the ground; and I have watched the birds, from a hiding-place, picking up the leaves from the ground just underneath and sticking them into the structure at the rate of two or three in a minute. I received a clutch of eggs from one of the head men of the Galle district, which he said belonged to this bird (well known to the natives by the name of "Batitchia"); and he described the nest as made of grass and not leaves. The eggs were of a dull white ground-colour, blotched and dappled round the obtuse end with greyish red, and measured 8½ lines by 6¼ lines.

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* In my note on this bird in J. A. S. (Ceylon branch), 1870–71, the female is stated to be *brighter* than the male. This is a printer's error, it should read *lighter*.

Drymocataphus fuscicapillus is one of the commonest and most widely distributed birds in the southern province; it appears to have escaped much observation hitherto in Ceylon, and is an instance of how easily a bird of retiring and shy habits may be overlooked in any district if its note is not known. Up to the time of my arrival in the southern province, having only collected in the western and coffee-districts, I was under the impression that this Babbler was one of the rarest birds in the island. I had not been long at Galle before my attention was drawn, while out shooting in the early mornings, or on rainy days, to a remarkable three-note whistle like the words "*to meet you*" proceeding from thickets, bamboo scrub, or any spot where there was much undergrowth. After many attempts, owing to the shyness of the bird, I procured it, and was very pleased to see what my prize consisted of. The note is very remarkable, continued generally for fully ten minutes at a time, the bird being some times seated on a twig or bamboo, with its neck stretched out, intent on making itself heard, or hopping quickly about backwards and forwards in the jungle; at this time it is very hard to detect, as its voice seems to be coming from different diretions—near the ground or from the tops of the trees. It is particularly noisy in rainy weather, and has, besides its curious "*to meet you*" whistle, a pretty warble not easy to syllabize. I procured it near the

Singha-Rajah forest on the upper Gindurah, at about 1000 feet above the sea-level. Now and then it may be seen near the edges of paths in the jungle or flying across open places; but this is quite the exception*. It is always found single or in pairs, and does not seem to associate in small parties like its smaller relative, *Alcippe nigrifrons*. *Garrulax cinereifrons* is common in the upper forests of the province; it is found in parties of a considerable number, and is very shy, the whole flock taking themselves off quickly, chattering, and following one after the other, on being disturbed in the slightest degree. I imagine it is confined to the dark and gloomy jungle of the hills; I have generally found it in ravines, where it affects underwood and feeds much on the ground, scratching up leaves in search of its food. *Hypsipetes neilgheriensis* is very abundant from the Morowa-Korle and Singha-Raja hills down to the low forests near Galle. It is plentiful also about the secondary jungles and confined valleys between the forests and the sea. It is a noisy bird, and does not often escape observation as it flies to and fro across the narrow ravines, settling on the extreme tops of trees and uttering its harsh unmusical notes. *Criniger ictericus*† is numerous in forests from the low country up to the coffee-estates; it is always found about the smaller trees and shrubs in high jungle, and, besides searching along the branches and among the leaves for larvæ, feeds on various berries and small fruit. *Kelaartia penicillata* is a Bulbul which I have not succeeded in procuring from the southern province; I have never seen it in the district. *Rubigula melanictera* is more numerous here than in any part of Ceylon, frequenting native gardens, "Lantana" thickets, bamboo jungle, and damp primeval forest. Birds are frequently shot with hazel-brown eyes (the normal colour being sombre red); and though I have not been able to detect any signs of immaturity in their plumage, they must necessarily be the young of the year.

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* To my surprise I found this bird numerous in the jungle of the north-east; specimens from that district are lighter in colour than southern birds.

† With regard to Mr. Holdsworth's note on this bird (P. Z. S. 1872, p. 450), he does not seem to be aware that there are large tracts of fine primeval forest within twenty miles of Colombo. In such I found *Criniger ictericus*, and not in districts "*consisting of paddy-fields and cultivated land.*" The face of nature is very changeable in Ceylon, and birds are extremely local on that account.

Phyllornis malabaricus is by no means uncommon; it is an inhabitant of the forests. I have obtained it from near Galle up to 3000 feet in the Singha-Rajah hills. This district was the first in which I found this Bulbul, though I have seen a specimen from the central province. It has not the clear whistling notes of the universally distributed *P. jerdoni*; and as its yellow forehead cannot be distinguished well in the distance, I believe it has been hitherto passed over in Ceylon by those who have not paid attention to the voices of the different species of this family. *Iora zeylonica* is very numerous throughout the low country of this province. I have specimens in winter plumage with the iris *grey*, others in change of dress with that, again, darker, and two in full breeding-plumage (with the black back) which had the eye hazel-brown. This latter circumstance must be looked upon as an abnormal state of things, I imagine, unless the eye changes in this species as it puts on its nuptial clothing. Concerning the Warblers there is but little to note. *Thamnobia fulicata* is much more numerous here than in the western province, appearing as if it increased gradually towards the south-east coast, where it is so extremely abundant. *Prinia socialis* is found in sugar-cane fields; and as I have found it on the mountain patnas of the central province, it doubtless extends into the hills of this part of the island as well. *Kittacincla macrura* is rare in bamboo-jungles. *Cisticola homalura*, Blyth, said to have been found in this district, has not yet come under my notice, although the common species is abundant in grassy deserted paddy-fields, and inhabits likewise the patnas of the Morowa-Korle and Singha-Rajah forests. *Drymoipus validus* is found in open bushy places, especially in clearings made by the natives in the inland valleys for the purpose of cultivation; I have it also, identified by Lord Walden, from near Colombo. My specimens range up to $6\frac{9}{20}''$ total length. I have also *Drymoipus jerdoni* up to 5·9″. The bill of *D.*

validus is black, with a lightish base, of very small extent, to the under mandible; and a very noticeable peculiarity or characteristic is, that the margin is well curved and the culmen much hooked, while that of *D. jerdoni* has a gentle sweep from base to tip. The larger bird is found in the "Koorakan" (*Eleusine indica*) fields of the Singha-Rajah hills, and delights in sitting on some stump or fallen tree, from which it pours forth its loud shrill notes and draws attention to its existence in these mountain-solitudes; it is not, however, peculiar to the southern hills, as I have shot it in the "Knuckles"*, where it is always to be seen in "hill" paddy-fields. *Phylloscopus nitidus* is a winter visitor to these parts as well as to the western and central provinces; and I have no doubt that *P. magnirostris*, which I have procured in Dimboola and also in forests of the *north-east*, accompanies its smaller congener to our hills. Of Motacillinæ, we have in the south *Calobates sulphurea*, found along the sea-coast, affecting at times the very rocks in the vicinity of Galle, before betaking itself in September to the mountain-streams of the interior, and *Budytes viridis*, very numerous in grass-lands and newly ploughed paddy-fields, in one "square" of which I have counted nearly a score. *Corydalla rufula* is our only Pipit, the other two species apparently not extending to the south.

Zosterops palpebrosus is plentiful both in the low and hill country; and Holdsworth's species, *Z. ceylonensis*, is very numerous in the Singha-Rajah forests. I might mention that this range of hills, lying about forty miles from Galle, attaining a height of about 3500 feet, and hitherto unexplored by any European save one†, appears to abound with all the peculiar Ceylonese birds. I found *Z. ceylonensis* there, as I did in the forests of the Knuckles, to the north of Kandy (see note, Journal R. A. S. (Ceylon), 1871, page 30), in large flocks affecting the ends of outspreading branches of forest-trees, clinging to the twigs and leaves thereof, and keeping up an incessant chirping; after one tree had been well searched, the whole troop would move off to another, and so on through the jungle. A male from the central province measured 4·8″, and has a wing 2·3″, while another from the Singha-Rajah hills has a total length of 4·7″ and a wing of 2·2″; the females are smaller and less dark on the forehead, having the wing up to 2·1″ in length. I traced *Prionochilus vincens* (Legge's Flower-pecker) up to the same locality at an elevation of about 2500 feet; so that this little novelty must now rank among our *hill*-species. It was found much about the edges of clearings in the forest, and affected, wherever it grew, the flowers of the hill-species of Bowitteya (*Osbeckia virgata*), a very common shrub throughout the island. It was evidently breeding when I was there, in September, as the testes of one I procured were very much developed. The iris is more strictly *brownish* red than "reddish," as I described it in my first notice of the bird to Dr. Sclater. It is a remarkable fact, as noticed also by Mr. Hugh Neville (Journ. R. A. S. (Ceylon), 1871, page 33), that *Corvus splendens* is entirely absent from the south of Ceylon, where it is replaced abundantly by *C. culminatus* in towns and villages as well as in the country. *Parus cinereus* and *Cissa ornata* inhabit our hill-region. The Jay is local in its distribution, being very numerous in some forests of the Morowa and Colonna korles and entirely wantin other tracts. As is the case with all our hill-species, and which I wish especially to call attention to in this paper, it descends to lower elevations in the southern than in the central hills. I have seen it along the banks of the Gindurah at about 1500 feet above the sea.

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* Mountains to the north of Kandy.

† Dr. Thwaites, director of the the botanical gardens, Peradeniya.

Among Mynahs the abundance of *Eulabes religiosa* is somewhat noteworthy. It replaces *Acridotheres tristis* at about ten miles inland, and is very common in forest- and also in cultivated lands along the rivers of the interior. It ranges up to about 1000 feet on the Gindurah. Far more remarkable, however, is the abundance of *Temenuchus senex*, that most local of all Ceylon birds, in the Morowa-Korle and Singha-Rajah ranges. Unlike its nearest ally in Ceylon, *Temenuchus pagodarum* (so abundant in the Hambantotta districts), it is strictly arboreal in its habits. I first met with it in the

Morowa-Korle coffee-country in 1871, frequenting the edges of forests, and hopping actively, Bulbul-like, about among the leaves of fruit-bearing trees, clinging, Tit-like, to the twigs, and uttering a single note, which I find jotted down in my rough memoranda as very Starling-like. I subsequently found it in numbers in "cheena" clearings in the Singha forest, which is a continuation of the Morowa-Korle hills, being simply divided from them by the deep gorges of the Gindurah. In the mornings it fed, in company with flocks of *Palæornis calthropæ*, on the seeds or fruit of the Kanda-tree (*Macaranga tomentosa*) growing near the edges of the jungle; and in the heat of the day I observed it hopping about the leaves of Jack-trees searching for insects. On procuring specimens the stomachs proved to contain a mixed diet. In the evenings they became restless, in just the same manner as the Hill-Mynah, *Eulabes ptilogenys*, and roamed about the valleys, alighting on the tops of dead trees in small parties of two and three. Layard got his specimen from Mr. Thwaites, and believed it was procured in the Saffragam district, which is the opposite slope of the central mountains on the north side of the valley which divides them from the ranges I now speak of. Males measure in the flesh 8·3″; wing 4·2″; tail 2·7″; tarsus nearly 1·1″; bill from gape 1·1″. The iris is whitish, with a brown inner circle; bill light glaucous green, bluish about the base; legs and feet bluish slate. The female differs materially from the male in the character of its coloration, in having far more white on the head, and in the neutral grey of the under surface being much more in extent. These parts may be described thus:—forehead, *front of crown*, side of head just over the eye, face, ear-coverts, chin, and gorge white; fore neck and the sides (gradually blending thence into the ashy black of the hind neck), chest, breast, and flanks neutral grey or bluish cinereous, the feathers with fine white shafts; on the belly the feathers commence to be edged greyish white until the abdomen and under tail-coverts become entirely of that colour. In the male the forehead alone is white, with a buff tinge, ending abruptly at the crown, the white of the throat descends further to the neck; and the feathers of the breast have the centres greyish white, with a broad margin only of neutral grey, the white shafts showing conspicuously on the chest, and not on the lower parts as in the female. Our Hill-Mynah, *Eulabes ptilogenys,* is extraordinarily numerous in the forests of the Kookool Korle, and in parts of the Morowa Korle, and is found as low as 1500 feet.

There is nothing much to note with regard to the distribution of the Fringillidæ in our province, except that *Munia rubronigra* does not appear to exist here at all. Layard records it from Galle; but he surely could not have mistaken it for *M. malacca,* which is common in the heart of the many paddy-districts of the interior and nowhere else in Ceylon that I have visited. *M. malabarica* is an Indian bird in its tastes, liking a dry climate, such as the south-east coast and northern parts of the island. It is quite absent from our hill-district. I have now and then seen an isolated example of *Estrelda amandava* on the grass-land close to the Fort; the bird has in all probability become acclimatized here as at Colombo, by escaping from cages brought here from Bengal. *Alauda gulgula* is rare in this district, preferring, in company with all the peninsular birds found in the island, that remarkably Indo-Ceylonese region, the south-east coast. Of Columbæ, the fine *Carpophaga sylvatica,* with its wonderful deep note, is plentiful in hill-jungles and forests when its favourite trees are in fruit. *Palumbus torringtoniæ* inhabits the hills, as it does in the central province. The wing-coverts in the immature bird are edged *rusty. Osmotreron bicincta* is numerous in the maritime districts, extending inland to the lower hills, where it is replaced from there up to the spurs of the Singha-Rajah and Morowa-Korle hills by *Osmotreron flavogularis,* Blyth; the soft melodious whistle of this species is one of the most beautiful of all eastern bird-notes. The under tail-coverts in all specimens I have procured (it is very numerous also in the eastern province) have not sufficient green to warrant the feathers being described as such; those I have examined are white, the shorter feathers margined with faint yellow mottled or irregularly patched with greyish green to within half an inch of the tip. These markings vary in extent in different individuals. *Turtur risoria* is absent from this district, being replaced by *T. suratensis,* which is very numerous. Pigeons, as well as all other frugiverous birds, are exceedingly fond of the berry of the "Lantana" (*Lantana mixta*), which has overrun the whole island. *Chalcophaps indica* is perhaps the most plentiful of our Doves, and is widely distributed throughout the hilly country of the lowlands, frequenting bamboo-jungles, in which it breeds, making its nest generally where a tangled mass of the stalks cross each other. The wooded nature of the south-west is particularly favourable to the habits of Jungle- and Spur-fowl; but the latter predominates much in numbers. Every copse and little piece of detached jungle, even in the vicinity of the sea, has its pair; but notwithstanding their numbers, they evade all attempts at stalking, and seldom or ever fall to the gun of the European. The natives shoot them at times by watching near a favourite haunt at day-break, when they generally show themselves on the edge of the copse for a short interval. *Galloperdix bicalcarata* breeds in this province during the south-west monsoon, from June until September. The nest is a depression or hole scratched in the ground, lined with a few dead leaves, under the shelter of a rock or between the projecting roots of a large tree. They lay from two to four eggs of a uniform cream-colour; axis 17 lines, diam. 13½ lines. One that I took from a nest last July has raised white specks all over the surface, such as are sometimes noticeable on the eggs of the domestic Fowl. This part of the island is the head quarters of *Excalfactoria chinensis,* which frequents grassy damp fields in numbers, and affords at times fair shooting to the sportsman. *Turnix taigoor* is not so numerous as in the western province, being principally confined to low bushy outskirts of jungle and citronella-grass plantations.

It will appear from the description of this part of the southern province, at the commencement of these notes, that it can contain but little area suitable to the habits of Waders and natatorial birds; and these are therefore, in comparison with other districts in the island, but poorly represented in our list of the avifauna. Many of the Ardeidæ are universally distributed throughout Ceylon, being found wherever there is the smallest piece of marsh or "paddy" land, and must be in consequence considered an exception to the well-marked absence of their congeners from this part. Bordering the Gindurah river, in the neighbourhood of the villages of Wackwelle and Boddegamme, and extending thence to a distance of some twenty-five miles from the sea, are large tracts of paddy- and open grass-land, which, of course, harbour a number of Snipes in the season, and about which large flocks of Golden Plovers are found in rainy weather. The district of Matura, the southernmost part of the island, contains much in common with this division of the province: the Whistling Teal (*Dendrocygna javanica*) is numerous there, and breeds in June and July in marshy deserted "paddy" fields; and I am informed that the large Wild Duck (*Anas pœcilorhyncha*) is found sometimes on the river Niwalle, which flows into the sea near the town of Matura. There are several large brackish lagoons connected with the sea and lying some little distance inland along the coast-line from Bentotte, thirty miles north of Galle, to Matura, about the same distance to the south-east; but these are singularly devoid of bird-life. The shores, instead of being flat, are lined with mangrove-thickets; and the waters are not tidal; so that there is almost a total absence of *Totani* and *Tringæ*; a few Herons, among which *Nycticorax griseus* predominates in some places, are the sole denizens of the borders of these lakes. The waters being brackish harbour scarcely any wild fowl, a stray Cormorant or two, *Graculus javanicus*, being about the only form to be seen in a day's trip. The Charadriidæ of this part of the island are *Ch. fulvus*, *Ægialites mongolicus*, and *Lobivanellus goensis*. The first of these is the most abundant, arriving in September a little before the Snipe, and departing later, as far into the breeding-season as the first week in May. In the north of Ceylon, I should say, many birds while passing to high latitudes ought to be procurable in full summer dress. In this district, as early as the 29th of April, I have procured them with the white forehead and neck-bordering, and the whole under surface black, except here and there white patches. My experience goes towards testifying that the change of colour takes place in the existing feather, and not by renewal of it; and it would appear, furthermore, to be acquired with wonderful rapidity. It is noticeable first of all on the breast, on the feathers of which black marginal spots appear near the tip; these gradually coalesce until the terminal half is entirely black; at this time small black spots appear at the tips of the fore-neck feathers, and the under tail-coverts become barred with the same hue. The white markings of the forehead and neck appear to be the last acquired, as at the above stage there is no trace of them. *Ægialites mongolicus* is found during the winter months on open grass-land, particularly in wet weather; its little congener *Æ. dubius*, abundant in the north of the island and associating generally with it, is absent from this district. *Rhynchæa bengalensis** is tolerably abundant in large extents of paddy-land, particularly in the Wackwelle district near Galle, as many as six couple having fallen on one occasion in a day's shooting last year to the same gun. They breed to a considerable extent in Ceylon, about May and June, according to reliable information as to actual nesting; but, curiously enough, I have had an egg taken from a bird in December and another in March, both ready for laying. Another instance occurred of a bird laying an egg in a cage, recorded by Mr. Holdsworth (P. Z. S. 1872, p. 473); and, if I mistake not, that in the possession of Mr. C. P. Layard, Government Agent for the western province, was taken from a dead bird in October. They "nest" on a bank or ridge in the fields out of the way of the water, and appear to lay two eggs. These are of a stone-yellow ground-colour, and vary much in the intensity of markings. Mine are blotched and washed irregularly all over with rich dark sepia-brown with a few pencillings of the same hue, a few bluish grey and light brown blotches appearing towards the obtuse end under the brown markings; axis 1 inch 4 lines, diameter 11 lines. Some eggs are magnificently clouded with sepia and want the pencil-like strokes. With regard to *Æ. mongolicus,* I forgot to mention above that it sometimes remains very late in this country, even down here in the south, before it migrates northwards. I have procured it on the 27th April on the sandy banks of our chief river, the Gindurah, still in the immature plumage in which most of our visitors of that ilk are clothed, without a sign of moulting to the adult garb. As may be supposed, our list, in the south, of Longirostres is not a strong one, the country not being suited to their habits. There is, as it were, a gap, as far as this class is concerned, extending from the mud flats of Negombo, to the north of the capital, to the flat and salt-pan-begirt shores of the south-east, where Waders of all kinds become so wonderfully numerous. *Numenius arquata* is found in the Matura-district; but I doubt if *N. phæopus,* which seems confined to the north of the island, ever comes so far south. *Tringa minuta* is now and then met with, along with Golden Plover, in newly ploughed paddy-fields, where they may be seen searching for the various worms and other insects turned up by the plough. This species wanders a good deal inland. I have found them in muddy drains running through swamps in the northern province; and it was in such a locality, out of a flock of three Little Stints, that I obtained, some months ago, *T. temminckii,* for the first time recorded from Ceylon. *Actitis glareola* is very common in this province, being our first visitor at the fall of the south-west monsoon—that is, if I except *A. hypoleucus,* which I cannot but believe is a resident in the island to a large extent. These two species frequent the brackish mangrove-lined lagoons of these parts, being the only birds of the kind found there. They may be often seen running along the edges of the loathsome *cori-pits,* where the cocoa-nut husks are allowed to rot before being beaten out into cori yam-spots. But to return to Totaninæ, *T. stagnatilis* is the only species I have met with here. While wandering in the haunts of this and other like species in the north of the island, watching the movements of happy little parties busily discussing the denizens of the tidal-flats of the great salt lagoons, I have often thought that this little chap must be gifted with an exceedingly bad temper. How he screams and pipes in the most offended of tones when he is disturbed! How he still gives vent to his rage after he has alighted again, till he is finally appeased by the glad sight of some hapless struggling sand-worm and relapses into silence! I know of but one instance of a large Stork being seen on the inland marshes of this district; and that must have been *Ciconia episcopus,* Bodd. *Ardea purpurea* is numerous in parts, such as in the vicinity of the large lake at Amblangodde and in like situations near Matura; but it is very local in its distribution. *Herodias egrettoides* is plentiful in parts, but not *H. garzetta,* which is a northern bird. Contrary to Layard's experience, I find that *Ardeola leucoptera* and *Buphus coromandus* breed in colonies by themselves, and not in company with other Egrets. They are both very numerous about the swamps and saltish lagoons of the hilly district under consideration, and nest in the months of May and June, *A. leucoptera* choosing our island in preference to other localities. In a large colony which I visited on Kogalle Lake, a sheet of water some ten miles from Galle, I found most nests to contain two or three eggs, a few only having four. They were small for the size of the bird, averaging 1″ 7‴ by 1″ 2‴; but they vary very much in dimensions; they are in some instances exceedingly *round* for the eggs of a Heron. The young nestlings just fledged have the bill fleshy red, the tarsi and feet bright pea-green, the head and back of neck dark brown, with buff mesial lines, and the neck buff, with broad brown margins. They perch and cling to the branches with great cleverness when only a day or two old. The nests were placed in a low, bushy, swamp-loving tree, called in the vernacular, "cadool" (*Rhizophora mucronata*), and are very small, resembling large Pigeons' nests more than those of Herons. *Ardetta cinnamomea* is common here; but *A. flavicollis* is only now and then met with in the north-east monsoon. *Hydrophasianus chirurgus* is numerous in some of our fresh-water inland swamps, birds being often found in October in what is called in Indian works "winter" plumage: such a term would be puzzling here, however; for this dress, the non-breeding garb, is worn in Ceylon from May until the latter part of the last-named month; so that the breeding-dress is the winter and the opposite the summer dress. This species is wonderfully numerous on the northern tanks in the "Wanny" district, their musical notes resounding all day and all night long through the picturesque forests on their borders. These sounds are essentially typical of the wild regions in the northern forests of this island, and must always associate themselves in the mind of the naturalist with his wanderings in Ceylon. *Porphyrio poliocephalus* is rare on the lagoons of the south; and now and then *Gallicrex cristata* falls to the gun of the sportsman in the paddy-fields. This latter bird appears to be migrating to the south of Ceylon, coming down with the north-east monsoon in October, and leaving in April. As yet I have not been able to meet with it during the remaining portion of the year. The Rails of Ceylon must either be very rare or very difficult to find in districts which they do affect. I am inclined to think they are also very local in their distribution, as it is somewhat noteworthy that Layard, who looked through the island so well, only met with the three rarest species (*Porzana fusca, P. pygmæa,* and *Rallus indicus*) in one locality, near Colombo. I have not seen any examples of any of these birds from this part, though one, or all, may yet be found in the marshy districts of Matura. *Anastomus oscitans,* the only Ibis in this corner of the island, is found on Amblangodde Lake, twenty miles north of Galle, where there is a tolerably large colony. They breed there, I imagine, as I have seen and shot them on the lake very soon after the breeding-season. Who will be the discerning individual destined to settle the much-vexed question of the peculiar worn space in the bill? I do not see how it is to be done while there is such strong difference of opinion, some asserting that it does not exist in the young bird and others denying this. My own experience points decidedly to the former theory. I secured a young bird, some four or five months old, from the western province, a district which, by the way, it does not affect in general; and I can safely vouch, after a close examination of the mandibles, that no signs of the space existed, nor was there any serration of the edges or other indication of a probable development from natural causes of this peculiar formation. The edges of the mandibles fitted together as with ordinary birds. The young of this Ibis, like those of *Tantalus leucocephalus,* do not reach the full size until some time after they are fully fledged—in fact, not until the end of the first year. They are differently clothed miniatures of the adult, so to speak. Jerdon mentions, 'Birds of India,' vol. iii. p. 765, that he is of opinion that the *white* birds seen now and then are not young but old individuals; his supposition would appear to be correct, as my specimen had the interscapular region and about the shoulders brown instead of grey as in the adult, the scapulars brownish black, and the head and neck dusky. The length of the bill and tarsus were 4 inches and 5½ as against 6·1 inches and 6¼ respectively in the adult. In spite, however, of the non-existence in the young bird of this cavity (which I should be sorry to affirm was always the case on the testimony of one example only), there is but little doubt that it is developed *naturally,* and not by wear, at a more advanced stage than that in which my specimen was; for the peculiar decomposed and fibrous-like process extending along the edge of the "arch" on the margin of the upper mandible militates against the idea that this is the result of friction in opening shells. If it were so, this soft formation would soon cease to exist, and the edge of the upper mandible would be as smooth and hard as that of the lower. Assuming that this is the correct hypothesis, what is the object of this formation in the economy of the bird?

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* In the north of Ceylon I have invariably found this bird in the salt sedgy lands near the foreshore of tidal lagoons, where they feed much on small *univalve shells*, four or five of which I have taken *whole* from the stomach of one individual.

Concerning our Laridæ there is but little to note, as this particular part of the coast is poor in variety of species, although those which do visit us exist in large numbers. The common Gull of the north, *Xema brunneicephalum,* Jerdon, so abundant about Trincomalie and Jaffna, I have only once seen in this neighbourhood. *Croicocephalus ichthyaetus* is very rare in this country so far south. I have but once noticed it; and that was in the rough weather off the coast at Colombo. The two Sea-Terns which affect our coasts, viz. *Sterna bengalensis,* Lesson, and *Sterna bergii,* Lichtenstein (or *Sterna cristata,* Stephens, = *S. pelecanoides,* King, whichever it is), are very numerous, arriving here in November and leaving again about the last week in April or first in May, according to the strength of the south-west monsoon. These Sea-Terns are numerous wherever there are detached rocks some distance from land, which they make their head quarters, roosting there during the heat of the day when they have gorged themselves with fish. There appears to be some doubt what the larger species really is. Hume, in 'Stray Feathers' (vol. i. p. 283), affirms that the bird frequenting the coasts of India, and which he met with in Sindh last year, is *S. bergii,* Lichtenstein, the wings of which he gives as varying from 14·2 to 14·8 inches, and the bills from 2·6 to 2·75 inches, and says that *Sterna cristata* (the bird given by Jerdon as the common species round India) has a wing of from 13 to less than 14 inches, and a bill of from 2 to nearly 2·5 inches, and furthermore has the forehead *white at all seasons.* My specimens have the wing 13 and 13·1 inches, and bills barely 2·5 inches—the dimensions given for *S. cristata,* Stephens. It is extremely difficult to work the subject out, in the south of Ceylon especially, on account of the birds leaving before many of them acquire any signs of summer plumage. At the end of April and the first week in May I have seen the larger Sea-Tern with both black and white foreheads; but I was not fortunate enough to procure specimens of either, so that I cannot say whether they were two species or winter- and summer-"headed" examples of the same. *S. caspia* does not extend to the south of Ceylon: and *Gelochelidon anglica,* Montagu, is not at all common here; it commences on the south-east coast and gets more numerous towards the north, where it is more abundant than any other species. The Marsh-Tern, *Hydrochelidon indica,* Stephens, is abundant about paddy-fields, and arrives here early in the fall of the year.

I have once seen a Frigate Bird, which I conclude was *Attagen minor*; they do not appear off these shores except when the wind is blowing strong from the west or south-west.

Both our species of Cormorants are found sparingly about the brackish lakes of this district; *Graculus sinensis*, the rarer of the two, frequents the Amblangodde Lake, a large sheet of water mentioned more than once in this paper.

Note.—Since commencing these notes, which have been much delayed owing to pressure of work, illness, and two changes of stations, I have added to my list of Raptores, by observing *Pandion haliaetus* as late as the 3rd of May making its way northward, and by procuring specimens of *Accipiter virgatus* in the low country fifteen miles from Galle. This latter is a rare species in Ceylon; and the Osprey has only, so far as I am aware, been seen once before in these parts.

In visiting a large tract of hill-forest, hitherto unexplored, lying in the subsidiary ranges of the Morowa-Korle group of mountains, and attaining a height of about 1700 feet, I found *Eulabes ptilogenys* as low down as 600 feet above the sea-level, and *Zosterops ceylonensis* as low as 1500 feet.

Galle, 10th May, 1873.

IV.—*Notes on certain Birds of New Zealand.*

By Capt. F. W. Hutton.

Although fully recognizing the value to ornithologists of Dr. Buller's handsome work on the birds of New Zealand, especially in his determination of *Thinornis rossii* as the young of *T. novæ-zealandiæ*, and in his identification of *Gallinago pusilla* with *G. aucklandica*, I wish to point out what I consider to be certain inaccuracies that I have noticed in it, and also to record my dissent from some of the opinions expressed therein.

I have in these notes followed Dr. Buller's nomenclature, but I do not agree with it in all cases.

Sceloglaux albifacies.

I cannot agree with Dr. Buller's remark that "the extinction of the native rat has been followed by the almost total disappearance of this singular bird," nor with the conclusion that he draws from it; for I have elsewhere pointed out (Trans. N. Z. Inst. v. p. 230) that there is no evidence that an indigenous rat ever existed in this country; and supposing even that there had been a "native rat," it could only have been exterminated by other rats and mice taking its place. There is also no evidence to show that the Laughing Owl was formerly "more plentiful than it now is," or that it has now almost totally disappeared. During a short tour of six weeks through the Nelson province last summer I twice heard it, once at Fox Hill, and again on the river Conway.

Besides its laugh it has a peculiar note, like two branches of a tree rubbing together, repeated twice over at considerable intervals.

Its laugh is very different from that of the bird that I heard on the Little Barrier Island (Trans. N. Z. Inst. i. p. 162), which I think must be of another species.

STRINGOPS HABROPTILUS.

Dr. Buller's mistake in supposing that the superficial analogy of the facial disk of this bird to that of an Owl, as well as the softness of its plumage, and its nocturnal habits, seem "to prove that it supplies in the grand scheme of nature the connecting link between the Owls and Parrots," has been already pointed out (Ann. Nat. Hist. 1872, p. 477), so that I have only to record my total dissent from Dr. Buller's views. Dr. Buller also states that this "bird is known to be a ground-feeder with a voracious appetite, and to subsist chiefly on mosses." That it may sometimes eat moss is probable; but I have tried in vain to induce it to do so in captivity, and one that escaped in a garden in Auckland remained for a fortnight in a clump of pine trees feeding on the flowers, and was never seen to descend to the ground. He also states that "there is no physiological reason why the Kakapo should not be as good a flier as any other Parrot." I should have thought that the small pectoral muscles, almost total absence of keel on the sternum, and soft primary feathers of the wing, were quite sufficient physiological reasons.

NESTOR OCCIDENTALIS.

I agree with Dr. Finsch that this species must be united with *N. meridionalis.*

HETERALOCHA ACUTIROSTRIS.

The tongue of this bird is not, according to my observations, "bifurcate at the tip," nor is it "furnished with minute barbs," but is deeply fringed at the tip, and slightly so down each side for about a third of its length.

HALCYON VAGANS.

I have never known an instance of this bird catching fish; like the rest of the genus it subsists entirely on insects and crustaceans.

PROSTHEMADERA NOVÆ-ZEALANDIÆ.

The bird described and figured as young must surely be a variety. I have seen several young specimens, but none of them had a white crescent on the throat.

ANTHORNIS MELANURA.

Dr. Buller is certainly in error in saying that this bird is dying out all over New Zealand; for it is one of the commonest of birds in the South Island, and can be seen in almost every garden. The district in which it is all but exterminated corresponds far better with the district thickly inhabited by Maoris than with the district thickly inhabited by *Mus decumanus*. I have never observed any bright-coloured feathers in its nest.

ORTHONYX ALBICILLA.

I quite agree with Mr. Potts that this bird is by no means the representative in the north island of *O. ochrocephala*. The structure of its feet shows that it is not an *Orthonyx* at all; and in its habits and song it is quite different from *O. ochrocephala*. According to my observations it does not prefer low bush, nor does it climb the boles of trees, but is almost always seen hopping about in the very topmost boughs of tall trees.

Dr. Buller is also mistaken in saying that it sings like the Canary. It is the Robin (*Miro longipes*) that sings like the Canary, while the song of the White-head (*O.* (?) *albicilla*) is much like that of the Yellow-hammer (*Emberiza citrinella*), but without the last note.

CERTHIPARUS NOVÆ-ZEALANDIÆ.

Dr. Buller says that the egg of this bird is not known; but I described it in 1871 in my 'Catalogue of the Birds of New Zealand' from specimens that had been in the Otago Museum for several years.

GERYGONE FLAVIVENTRIS.

In the figure given of this bird the breast is white, whereas it should be grey, while in the description of *G. albofrontata* the breast is described as grey when it should have been white.

I was in error in saying that this bird never uses spiders' nests in the construction of its nest. Dr. Powell informs me that the green spider's nest made use of is that of *Epeira verrucosa.* It is remarkable that *G. albofrontata* in the Chatham Islands uses the very same species of spider's nest as *G. flaviventris,* and neither ever employs the orange-coloured nest of *Epeira antipodiana.*

XENICUS LONGIPES.

I cannot accept Dr. Buller's identification of this bird with *X. stokesii* without further proof. Dr. Buller obtained specimens of *X. stokesii* which he wrongly determined as *X. longipes*; in fact all the specimens of *X. longipes* in his collection were *X. stokesii*; these he compared with *X. stokesii* in the British Museum, and naturally found them identical. But until it is explained how it is that the figure and description of *X. longipes* in the 'Voyage of the Erebus and Terror' differ so much from specimens of *X. stokesii,* I must continue to regard them as two species.

Dr. Buller also states that this bird is strictly arboreal in its habits, never being seen on the ground. This is quite incorrect of *X. stokesii,* which is constantly on the ground, and never ascends into high trees.

MIRO TRAVERSI.

I am not aware that I ever suggested to Dr. Buller that he should call this bird after Mr. H. Travers. The facts of the case are these:—When Mr. Travers's collection of Chatham-Island birds arrived at the museum, Dr. Hector handed it over to me, with instructions to make a list of them, describe the new species, and pick out a set of the novelties to send to Dr. Buller. This I did, and described this bird as *Petroica traversi*; and, with Dr. Hector's consent, the list was sent for publication in 'The Ibis' (Ibis, 1872, p. 243) in order that Dr. Buller might avail himself of it in the preparation of his book. The birds sent to Dr. Buller had also my names attached to each. My list was published in 'The Ibis' in July 1872; and I have a letter from Dr. Buller saying that the Editor had sent him a proof of my paper before the part of his book containing *M. traversi* was published. I do not think this can be considered as a *suggestion* to Dr. Buller that *he* should name this species after Mr. H. Travers.

MYIOMOIRA MACROCEPHALA.

I am still not convinced that this species is identical with *M. dieffenbachii.* The bright yellow of the breast which characterizes the latter is seen in the young before it is fully fledged; and the difference cannot, therefore, be due to age or to season.

ANTHUS NOVÆ-ZEALANDIÆ

is not gregarious during the summer, disappearing on the approach of winter, but, like other *Anthi,* congregates in the autumn, after the breeding-season is over, and disperses to breed in the spring.

GLAUCOPIS CINEREA.

Dr. Buller has omitted to notice the habit this bird has of holding its food in its foot when eating. Mr. W. Travers has described this in *G. cinerea* (Trans. N. Z. Inst. iv. p. 212); and I have myself observed it in *G. wilsoni.* *Porphyrio melanotus* has the same habit.

CARPOPHAGA NOVÆ-ZEALANDIÆ.

In 'The Ibis' for July 1872, p. 246, I described two eggs supposed to belong to this bird, brought by Mr. H. Travers from the Chatham Islands. Mr. Travers has since informed me that he is not sure to what bird these eggs belong, as he found them on the ground, but supposed them to be those of the Pigeon, because in each case a Pigeon was sitting in a tree above (!). The colour, however, and small size are sufficient proofs that they cannot belong to *C. novæ-zealandiæ;* and when Mr. Potts saw them he at once recognized them as the eggs of a Stormy Petrel. Both Mr. H. Travers and myself now believe that they belong to *Thalassidroma fregata.*

It is the more necessary that I should correct this mistake as Dr. Buller in his book (p. 160) states that the egg of *C. novæ-zealandiæ* is "1·5 inch in length by 1·1 in breadth; the surface is smooth without being glossy, and, as a rule, pure white, but sometimes marked with obscure purplish spots at the thicker end," and, although not given as a quotation, the measurements and latter part of this description must have been taken from my paper in 'The Ibis,' as they correspond entirely with it. The egg of this bird is still a desideratum in collections.

OCYDROMUS EARLI.

It is much to be regretted that Dr. Buller does not produce better evidence in support of his statement that this bird occasionally breeds with the Barn-door Fowl. It is certainly astonishing that a naturalist should see and "carefully examine" several supposed hybrids, and never preserve specimens, nor even take an intelligible description of them, nor ascertain what these supposed hybrids developed into. Dr. Buller cannot expect that other naturalists will accept as true a statement made in such a loose and unscientific manner.

OCYDROMUS AUSTRALIS.

The male bird described by Dr. Buller under this name is *O. troglodytes* (Gm.), while the female is the true *O. australis* (Sparrm.). These two species are quite distinct, as has been pointed out by Dr. Finsch in the 'Journal für Ornithologie,' May 1872, p. 174 &c. Another species of this genus has been lately received at the Colonial museum from Otago, which I shall shortly describe.

CHARADRIUS FULVUS.

Dr. Buller states that this bird "occurs occasionally on the New-Zealand coast;" but as both Mr. Gould and Dr. Jerdon state that it resembles in habits the Golden Plover of Europe, this is very unlikely to be the case. He also makes no mention of the only specimen contained in any New-Zealand collection, viz. that in the Auckland Museum, which was presented by Dr. Buller himself, but without any mention of the locality.

ANARHYNCHUS FRONTALIS.

I cannot follow Mr. Potts and Dr. Buller in thinking that the bent bill of this bird is useful in enabling it "to follow up retreating insects by making the circuit of a water-worn stone with far greater ease than if it had been furnished with with a straight beak." In the first place, unless the bird is also furnished with some means of seeing round a corner, it would not be able to see the insect it wanted to catch; in the second place, the bird is just as common in the sandy bed of the Waikato, and on the mud-flats of the Manukam harbour, where there are no stones, as it is in the shingle beds of the rivers of the south island; and, in the third place, I have often watched the bird feeding and never yet saw it run round a stone more than any other bird might do.

It seems to me that a bill bent on one side would be very useful to a bird whose usual food was either minute but numerous organisms, such as Diatomaceæ &c., or small animals hidden among fine algæ &c.; for by slightly inclining its head it could lay a considerable part of its bill flat on the ground, and thus, in the first case, take up a much larger quantity of those minute organisms at a time, or, in the latter, could search over a greater extent of algæ for creatures that it could not see, than if it used only the point of the bill. The broad bill of the Duck performs the same office in a different manner. I by no means assert, however, that this is the use of the peculiar shape of the bill; for I have had no opportunity of observing one through a telescope when feeding, neither have I examined the contents of the stomach to ascertain on what they feed; but it must be remembered that the curve in the bill would not prevent the bird from eating insects and other animals also.

NYCTICORAX CALEDONICUS.

Dr. Buller says that several instances have been reported of this bird occurring in the south island; but both Dr. Haast and Mr. Fuller assure me that they never heard of it. The only authenticated New-Zealand specimen appears to be the one mentioned by Dr. Buller as having been shot in the province of Wellington sixteen years ago; but when I came to the Colonial museum I found two or three specimens, without labels, among the New-Zealand birds, and I somehow got the idea into my head that they had been obtained in the south island: this made me state, in my 'Catalogue of the Birds of New Zealand,' that the bird was found in both islands, a mistake which has probably led Dr. Buller astray.

LARUS SCOPULINUS.

The young of this bird takes a year and a half to arrive at the full colours of the adult. When one year old they lose the brown feathers of the wings and back and assume the plumage of the adult; but the red bill and legs are not got until the second spring.

LARUS BULLERI.

This bird is, no doubt, identical with *L. pomare.* It does not "deposit its eggs on the bare ground," but forms a very good nest.

DIOMEDEA MELANOPHRYS.

Dr. Buller will find more information on the subject of Petrels flying at night in 'The Ibis' for 1867, p. 192.

PELECANOIDES URINATRIX.

This bird flies very fairly; and it is quite incorrect to describe it as "a rapid fluttering movement along the surface of the water."

PUFFINUS BREVICAUDUS.

This bird is not by any means abundant on our coasts; only one specimen has as yet been obtained, which was exhibited by Dr. Buller in the New-Zealand Exhibition of 1865. The nesting-places mentioned by Dr. Buller in the Kaimanawa ranges and in the Taupopatea country are no doubt those of *Procellaria parkinsoni.*

PUFFINUS GAVIUS.

Dr. Buller gives *P. opisthomelas* (Coues) as a synonym of this species. In this he probably follows me, as he does not say that he has been able to compare it with any typical specimens. But this is another of my mistakes that he has unfortunately adopted without acknowledgment; for on a further examination I find that our bird always has the under tail-coverts pure white, while in *P. opisthomelas* most of them are fuliginous. *P. gavius* can hardly be said to "enjoy a wide oceanic range," when it has never yet been found out of sight of New Zealand.

THALASSIDROMA FREGATA.

This species is far more plentiful in New Zealand than *T. melanogaster*.

PROCELLARIA PARKINSONI

is common all round the New-Zealand coasts, and not by any means confined to the Hauraki Gulf as Dr. Buller would seem to imply. It breeds in the Rimutaka mountains near Wellington.

DAPTION CAPENSIS.

I cannot agree with Dr. Buller that the history of this bird has been fully recorded when even its breeding-place is not yet known.

PHALACROCORAX NOVÆ-HOLLANDIÆ.

This bird differs from European specimens in never getting so white on the head and neck; but this is not, in my opinion, sufficient to entitle it to rank as a distinct species. Dr. Buller, in his quotation from my catalogue, omits the first part of the sentence, in which I say that the change in my opinion about this bird was owing to my having visited the South Island.

PHALACROCORAX BREVIROSTRIS.

According to Mr. H. Travers this bird is not found in the Chatham Islands.

PHALACROCORAX PUNCTATUS.

The stage of plumage figured and described by Dr. Buller as that of the female is the winter dress of both sexes. The plumage of the sexes is similar in all Cormorants. This bird is quite as abundant at Napier and in the Firth of the Thames as in any part of the South Island.

APTERYX MANTELLI.

This bird is not so scarce in the North Island as Dr. Buller imagines. In 1866 I heard it at the Waikato coal-mines; and a few months previously a surveying party killed five at Taupiri, on the opposite side of the river. The natives also told me that it was common on the Piako ranges. In 1868 I heard of four being killed at Howick, and two in the Waitakerei ranges, both places being within a few miles of Auckland; and I have on several occasions had eggs brought me from Pirongia.

Wellington, New Zealand.
20th June, 1873.

V.—*Notes on the Ornithology of the Gold Coast.*

By HERBERT TAYLOR USSHER, C.M.G., C.M.Z.S., &c.

(Plate II.)

THE following rough notes have been put together at the request of my friend Mr. Sharpe, who has described in this Journal the collections made by me during my residence in Fantee. I am induced to offer them to the readers of 'The Ibis' as a supplement to his papers; and as so little is known respecting the economy of West-African birds, I trust they may not be devoid of interest. The nomenclature employed is that of Mr. Sharpe's papers in this Journal*, or of his catalogue of African birds, Dr. Hartlaub's well-known work being quoted where the birds are not referred to in the above-mentioned lists.

1. NEOPHRON PILEATUS (Burch.): Hartl. Orn. Westafr. p. 1.

Very plentiful on the Gold Coast, especially in and about large towns and villages, where it is the common scavenger, and is much protected by the natives on account of its utility in removing carrion &c. It is in consequence rarely molested and is very tame, stalking about houses and kitchens and picking up the offal. It possesses prodigious capacity of scent, and it appears to possess an instinct leading it to anticipate prey. On the occasion of the fight with the natives in June 1870, on the river Volta, I observed these birds collecting and settling in large numbers about the scene of conflict; and although the town of Daffo doubtless contained considerable numbers before the action, I noticed a great many coming from long distances and at great heights. On the next day they could be seen half a dozen together perched on the same corpse, making their hideous meal, and doubtless for days afterwards.

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* Ibis, 1869, pp. 186, 381; 1870, pp. 52, 470; 1872, p. 66.

2. GYPOHIERAX ANGOLENSIS (Gm.): Sharpe, Ibis, 1872, p. 72.

Very common on lagoons and rivers on the Gold Coast and other parts of Western Africa. It is usually observed on some commanding stand or point of vantage overlooking the water, not unfrequently with its wings outspread, as if drying them in the sun (resembling in this respect the ordinary Carrion-Vulture of the Gold Coast, *Neophron pileatus*).

Its flight is slow and heavy, and its habits mostly solitary, although I have noticed several following in the wake of a steamer in company with *Milvus parasiticus*, and disputing with the latter any refuse thrown overboard from the vessel. I have also seen this bird stoop at living prey. Having come across the haunt of a leopard in the vicinity of Lagos, I tied up a small kid in the middle of the bush and stationed myself in ambush at a small distance from the animal, in the hope of attracting the leopard. In a short time the kid showed signs of uneasiness and fear, and with a tremendous rush and swoop a large bird stooped at the little creature, twice as heavy as itself. I gave it the contents of one barrel of buck-shot and killed it, when to my surprise I found it to be a fine specimen of *G. angolensis*.

3. HELOTARSUS CAUDATUS (Daud.): Hartl. p. 7.

I have seen one specimen of this bird in confinement at

Accra; it was reported to have came from Croboe or Aguapim, in the eastern districts of the Gold Coast; but I cannot say which of the two. The district of Aguapim consists of thick forest, and is mostly situated on a mountainous range running down to the sea, while the Croboe country is more diversified and contains considerable tracts of open plains.

4. Spizaetus coronatus (L.): Sharpe, Ibis, 1869, p. 387.

I have received specimens of this fine Eagle from the interior, but am unacquainted with its habits.

5. Milvus parasiticus (Daud.): Sharpe, Ibis, 1870, p. 58.

Very common on all parts of the west coast of Africa. It is to be found in considerable numbers on the Gold Coast; and very frequently several specimens may be observed in company with the flocks of *Neophron pileatus*, circling together with these high in the air and uttering a shrill pipe or whistle. It is extremely destructive to young birds, especially chickens, and is not unfrequently killed by the hen in the act of carrying off her young.

6. Elanus cæruleus (Desf.): Sharpe, Ibis, 1872, p. 72.

This Hawk appears to frequent low ground, such as the plains of Accra, sloping down towards the sea; and I have observed it there in considerable numbers. Its favourite time for hawking is in the evening towards sunset; and its movements are rapid and graceful. It generally flies at a few feet from the ground, and, from its colours and style of flight, might at times be mistaken for a Gull.

7. Pernis apivorus (L.): Sharpe, Ibis, 1870, p. 486.

A fine specimen of the Honey-Buzzard was brought by Aubinn from Denkera.

8. Falco cuvieri, Sm.: Sharpe, Ibis, 1870, p. 486.

Only one specimen of this Falcon was obtained by me up the Volta. I observed one flying round the castle at Elmina on the evening of April 17th, 1872; it was far from timid, but I never saw it again.

9. Accipiter zonarius, Temm.: Sharpe, Ibis, 1870, p. 59.

I received this bird only from Aubinn, who collected it in Denkera.

10. ASTUR MACRURUS, Hartl.: Sharpe, Ibis, 1870, p. 58, pl. iii.

I have received specimens of this beautiful Hawk from Denkera, but know nothing of its habits.

11. ASTURINULA MONOGRAMMICA (Temm.): Finsch u. Hartl. Vög. Ostafr. p. 59.

I observed this Falcon in considerable numbers on the Volta. It is a handsome, bold bird, and is said by the natives to be very destructive.

12. POLYBOROIDES TYPICUS, Sm.: Sharpe, Ibis, 1869, p. 194.

I have only received this pretty Hawk from the interior, and am not acquainted with its habits. It does not appear to be common.

13. HUHUA LEUCOSTICTA (Hartl.): Sharpe, Ibis, 1869, p. 387.

Not very uncommon on the Gold Coast. A fine specimen was brought me alive from Denkera. It did not thrive, however, and finally died.

14. SYRNIUM NUCHALE, Sharpe, Ibis, 1870, p. 487.

One adult specimen was brought me alive from Denkera by Aubinn; and in my last collection I brought home several young birds.

15. SCOTOPELIA USSHERI, Sharpe, Ibis, 1871, p. 101, pl. xii.

This fine Owl was brought to me from Denkera, where it was stated to be rather rare.

16. SCOTORNIS LONGICAUDUS (V.): Sharpe, Cat. Afr. B. p. 2.

Not unfrequently found along the roads in Fantee. I take the present opportunity of observing that the specimens named by Mr. Sharpe *Caprimulgus fossii* (Ibis, 1872, p. 66) are really referable to the present species, which greatly resembles *C. fossii* when the tail is imperfectly developed, as was the case with the ones I shot.

17. CYPSELUS AFFINIS, Gray: Sharpe, *l. c.* p. 2.

One of the commonest Swifts on the Gold Coast; in all the towns and villages, especially in the larger ones, it may be observed flying about houses and large buildings, whence the nests may be seen depending in great numbers. The castle of St. George d'Elmina is in many parts covered with these nests; and the birds are so familiar as to fly about the rooms and galleries with the utmost confidence. In the open they are generally associated with *Hirundo puella* and *Cypselus parvus,* but the present species usually by far outnumbers the others. Their flight is rapid and graceful, but not so sharp as that of the English Swift (*C. apus*). They occasionally soar in large flocks to a great height, but more frequently hawk at a moderate distance above the ground. I am not aware of the exact number of eggs always laid by them; but the nests I had brought to me contained only a couple.

18. CYPSELUS PARVUS, Licht.: Sharpe, *l. c.* p. 2.

These Swifts are plentiful in the vicinity of Cape Coast and Accra. On Connor's Hill, near the former town, they are always to be observed in considerable numbers in company with other Swifts and Swallows, such as *C. affinis,* and at certain seasons of the year with *Hirundo puella* and *H. rustica.* This species appears to be fond of frequenting one or two Fan Palm-trees on Connor's Hill; and I have not observed it to settle on houses, although it makes its appearance in and about the town. It flies with great rapidity, and is very quick and eccentric in its movements.

19. CHÆTURA USSHERI, Sharpe, *l. c.* p. 2.

This Swift was first observed by Captain Haynes and myself in Fort Victoria, a small fort in the vicinity of Cape Coast, whither we had gone one evening to try and kill an Hyæna, several of which had been reported in the neighbourhood. Whilst we were sitting at night in the solitary little room of the fort or redoubt, four of these Swifts flew in, and we were fortunate enough to secure them all. This happened in July 1870; and I never again observed the bird until the month of May in the year following, when an officer of the detachment stationed in the Castle shot one up there one afternoon. The birds captured by Captain Haynes and myself had their nests inside the room; but these contained neither eggs nor young birds.

20. MEROPS ALBICOLLIS, V.: Sharpe, *l. c.* p. 3.

Exceedingly common in every part of Fantee and the Gold Coast. It can always be observed in the vicinity of Cape Coast, especially about bush-paths and hollow roads towards evening, when it may occasionally be seen to collect in large numbers, hawking after insects and occasionally resting on bushes or low branches of large trees. I have never seen this Bee-eater alone, and should consider it decidedly gregarious. It has no especial peculiarity in its habits to distinguish it.

21. MEROPS MALIBMICUS, Shaw: Sharpe, *l. c.* p. 3.

I have received two specimens of this bird from Aubinn, but I do not consider it a common bird in Fantee.

22. MEROPS PUSILLUS (Müll.): Sharpe, p. 4.

Tolerably common on the plains of Accra, where it is certainly gregarious, as I have never met with solitary specimens.

23. MEROPISCUS GULARIS (Shaw): Sharpe, p. 4.

This very beautiful little Bee-eater is tolerably common in Fantee, and is occasionally seen in company with *M. albicollis*; but whereas the latter species keeps very low, affecting small bushes or the lower branches of trees, the present bird invariably selects the highest vantage point it can find, a naked branch in preference to a leafy one, from which it makes occasional sallies after its prey. I have never observed more than three or four together, whereas *M. albicollis* is sometimes met with in very large numbers at a time. The vicinity of water appears to be selected by *M. gularis* in preference to any other situation.

24. EURYSTOMUS AFER (Lath.): Sharpe, p. 5.

This bird, unlike its congener, *E. gularis,* is usually observable only on the plains of Accra and in the eastern districts of the Gold Coast. It is generally found in pairs, and in full plumage presents a handsome appearance. Its habits appear to be similar to those of the Rollers in general. It is not so shy as *E. gularis*, and perhaps not so common.

25. Eurystomus gularis (V.): Sharpe, p. 5.

In the breaks and clearings of the Fantee forests, in cornfields, and in sweet-potato patches, the Blue-throated Roller is generally a prominent object. Perched in solitude upon a naked twig, in the centre of a clear space, if possible, he will sit for hours, only quitting his post for an instant to capture some passing prey. His movements at times resemble those of a Hawk, as he will occasionally remain suspended in the air for a short period, hovering about from one bush to another, but invariably returning to his original post after a time. He is by no means so handsome a bird as *E. afer*, and is much more difficult of approach. He is generally alone, whereas *E. afer* appear to be usually in pairs.

26. Ceryle rudis (L.): Sharpe, p. 6.

This widely distributed species is very common in Fantee and on the Gold Coast generally. Wherever there is water, fresh or salt, this industrous bird may be seen hovering at a short distance above the water and making occasional rapid dashes on its prey. I have frequently watched a pair from Government House at Accra, hawking over the surf, and picking up waifs and strays brought in by the rollers, or now and then pouncing on an unwary fish. In the river Volta they literally swarm, flying in batches out of the bushes as they become startled. Although not apparently gregarious, they are generally in such large quantities (in suitable localities) as to produce the impression of a small flock. I have occasionally, but rarely, met with a straggler at some distance from water; but, as a rule, they are not seen far from a river or pond of some kind.

27. Ceryle maxima (Pall.): Sharpe, p. 6.

This bird is met with on most of the rivers of the Gold Coast, and, indeed, of the Guinea coast generally, nearly always in pairs. Their movements are very rapid for so heavy a bird. I have never seen them far from water, indeed never away from the overhanging bushes of the river-bank, except on one occasion, when I shot one near the mouth of a creek among the rocks on the sea-shore. They will fight if only wounded, and can strike hard with their powerful bills. I have noticed that in old specimens the bills become blunted and not unfrequently damaged.

28. CORYTHORNIS CYANOSTIGMA (Rüpp.): Sharpe, p. 6.

Very common on the Gold Coast, in the vicinity of water, but occasionally met with in forest-land.

29. ISPIDINA PICTA (Bodd.): Sharpe, p. 7.

This pretty Kingfisher is common on the Gold Coast, and may be seen everywhere busily flitting about, both near water and in the forests. He is especially fond of frequenting low palms, where he doubtless finds some favourite food, and where he occasionally flits like a small jewel across the gloom, emitting at the same time a curious little cry. This species was common on the Volta.

30. ISPIDINA LEUCOGASTRA (Fras.): Sharpe, p. 7.

Rare upon the Gold Coast. I have, however, received a few specimens from Aubinn, who procured them in the interior, but did not tell me the exact locality.

31. HALCYON BADIA, Verr.: Sharpe, p. 7.

A very rare bird on the Gold Coast. I have seen only two specimens, collected in Denkera by Aubinn, of which one was immature. Its habits appear to be identical with those of the other insect-eating King-fishers; and it is evidently not a water-species.

32. HALCYON DRYAS, Sharpe, p. 7.

These Kingfishers are pretty commonly distributed over the wooded districts of Fantee, their favourite habitat being rather thick jungles or dense palm-forests, where I have been frequently startled by their chattering cry and bright colours as they flew across. They have no objection to damp jungle or bush, but do not appear to show any particular predilection for the vicinity of water. I shot several kinds of Kingfishers, however, up the Volta near the river itself; but they did not appear to hawk over the water, but generally affected dry ground, perching on a stick or dead bough, and occasionally sallying forth at any passing prey.

33. Buceros atratus, Temm.: Sharpe, p. 8.

This bird has only reached me from Denkera, whence it was brought by Aubinn. I have never seen them in confinement or otherwise; and they seem to be somewhat rarer than *B. elatus.* Doubtless the two species assimilate in habits.

34. Buceros cylindricus, Temm.: Sharpe, Ibis, 1872, p. 67.

This is apparently the rarest of the Hornbills in Fantee, and I have only succeeded in obtaining a single specimen.

35. Buceros fistulator, Cass.: Sharpe, p. 8.

Not rare in Fantee, where it is sometimes seen in flocks.

36. Buceros elatus, Temm.: Sharpe, Ibis, 1872, p. 67.

Three specimens were brought by Aubinn from Denkera, a male and two females. Of their habits personally I know nothing; I had, however, the opportunity of observing two females in confinement in a small garden at Cape Coast. They appear very sluggish in their disposition, and will readily accept food of all kinds, which they swallow apparently entire, remaining motionless as before on their perch. When on the ground they progress with difficulty, in awkward and ungainly hops; on trees, however, they appear to be more active. From what the natives tell me, they are looked upon as useful scavengers; and one species, which I suspect to be *Bucorax abyssinicus*, is considered *fetish*, or sacred, by the inhabitants of the Accra districts, doubtless from his habit of destroying noxious reptiles. The bare skin on the front of the neck and throat is light blue-grey in the living bird.

37. Irrisor castaneiceps, Sharpe, Ibis, 1871, p. 414.

Mr. Sharpe described this species from a specimen which I sent him. It was brought to me by Aubinn from Denkera, where he informs me that it is very rare, being not nearly so plentiful as *I. bollei.*

38. Turacus cristatus (V.): Sharpe, p. 10.

This fine bird is distributed all over the Gold Coast. I never shot but one myself; and that was in the vicinity of Accra, when returning from shooting one evening. I have received it from Denkera and Assim, and it is by no means rare. It is said to be good food, and is eaten by the natives.

39. Musophaga violacea (Isert): Hartl. Orn. Westafr. p. 159.

This magnificent Plantain-eater exists in all the forests of the Gold Coast, but is very rare and difficult to obtain. I have occasionally had them brought to me in confinement for sale; but they seem to pine, and do not take so kindly to captivity as the commoner Green Touraco (*Corythaix persa*). I once had a fine opportunity of shooting at a small flock of them, about eight in number, near Cape Coast, but, most unfortunately, had only a small pea-rifle with me at the time, which was useless. From the above circumstance I am disposed to think that they are sociable, although perhaps not strictly gregarious. Their appearance in the forest is very fine, their gorgeous colouring contrasting powerfully with the-deep-toned monotonous green of the tropical vegetation.

40. Schizorhis africana (Lath.): Sharpe, p. 11.

I have not observed this Plantain-eater in Fantee or the western portions of the Gold Coast; but in the open plains of Accra and the eastern Volta-district it seems to be very common. In fact the sportsman or collector cannot fail to be attracted by it as it flies from bush to bush, though generally keeping at a respectful distance from the gun. As the natives assert that it is palatable food, and seem glad to obtain it, the bird has doubtless become more wary than most other birds.

41. Cuculus canorus, L.: Sharpe, p. 12.

The only specimen of the common Cuckoo obtained by me in Fantee was shot on the 2nd of November, 1870, on Connor's Hill.

42. Coccystes glandarius (L.): Sharpe, p. 12.

I have never observed this bird elsewhere than on Connor's Hill, near Cape Coast. I have met with three specimens there, one of which was killed by my friend Dr. Hinde, as mentioned by Mr. Sharpe in 'The Ibis' (*l. c.* 1870, p. 485); I shot another at the same place; but it fell into very thick stuff, and I was unable to find it. A third example I started early one morning from a tamarind-tree on the slope of the hill; this bird winged its way in a north-westerly direction and did not return.

43. COCCYSTES CAFFER (Licht.): Sharpe, p. 13.

I shot a specimen of this bird in March 1872, near Abrobonko. He was busily flying from bush to bush across the road and was easy of approach. I have observed them not unfrequently near Cape-Coast Castle.

44. CHRYSOCOCCYX CLAASI (V.): Sharpe, p. 13.

This species of Shining Cuckoo is exceedingly common. It cannot fail to be distinguished by its flight, in which all the African Cuckoos resemble each other very much. It is extremely fond of frequenting long grass and the vicinity of reeds, *C. cupreus* being more common in the neighbourhood of trees. There appears to be no difference in their habits.

45. CHRYSOCOCCYX SMARAGDINEUS (Sw.): Sharpe, p. 13.

The gorgeous tints of this shy bird entitle it to the foremost place among the many beautiful birds to be found in Fantee and the Gold Coast. Contrary to the habits of *C. claasi* and *C. cupreus*, he affects high trees, and generally keeps amongst the topmost branches, where he may occasionally be observed in the dense forests in company with the more sober-coloured female. I never killed but one; and he fell from the summit of a high tree into the impenetrable jungle at its base, so that all attempts to recover him were vain. From the comparative scarcity and retiring habits of the bird, little can be ascertained as to its mode of life; and the natives are too ignorant to be trusted on such subjects.

46. CENTROPUS SENEGALENSIS (L.): Sharpe, p. 14.

The traveller in the Fantee forests or the Accra plains cannot proceed far without coming across this familiar bird. It inhabits the low bushes, whence it is constantly flushed, uttering its peculiar cry, *hoot-toot-toot,* which has earned for it the name of "Scotchman" among the white settlers. Although I have not seen any in captivity, I have little doubt that it could be easily domesticated. It is by no means shy, and is found almost everywhere, usually in pairs. During the breeding-season they can be heard uttering their loud and monotonous note for hours together.

47. CENTROPUS FRANCISCI, Bp.: Sharpe, p. 13.

One or two specimens collected by Aubinn in Denkera.

48. CENTROPUS MONACHUS, Rüpp.: Sharpe, Ibis, 1872, p. 68.

Rather rare, but occasionally to be obtained, more especially in the vicinity of Accra.

49. CEUTHMOCHARES ÆNEUS (V.): Sharpe, P. Z. S. 1873, p. 610.

A common bird in Fantee; but I have never received spemens from Accra and the eastern districts, nor did I observe it on the Volta. It is a very active bird; and by remaining quiet for a short time amongst the trees bordering the Sweet River at Abrobonko, the collector will be certain to observe them hopping from bough to bough. I have not been able to ascertain their habits or their food.

50. TRICHOLÆMA HIRSUTA (Sm.): Sharpe, p. 15.

Common in most wooded portions of the Gold Coast. I have not met with it in the eastern districts, although it is probably to be obtained in the forests of Aguapim, which join the wooded districts of Fantee.

51. POGONORHYNCHUS VIEILLOTI (Leach): Sharpe, p. 15.

I have myself only obtained a single specimen of this Barbet; and that I killed on Connor's Hill at the same shot as a White-breasted Glossy Starling (*Pholidauges leucogaster*). They were both perched on a small tree in this very prolific locality, where I have obtained some of the best and rarest specimens in my collections. Aubinn assures me that it is not common in Fantee.

52. POGONORHYNCHUS BIDENTATUS (Shaw): Sharpe, p. 15.

I have already noticed this bird (*Cf.* Marshall, Monogr. *Capit.* pl. vi.) and its fondness for thorn-bushes.

53. XYLOBUCCO SCOLOPACEA, Bp.: Sharpe, p. 15.

A plentiful little bird, not differing in its habits from the other Barbets of the Gold Coast.

54. XYLOBUCCO DUCHAILLUI, Cass.: Sharpe, p. 15.

Found in the forests, especially on the palm-trees (*Elais guineensis*), of the nuts of which they are very fond. They are not numerous near Cape Coast; but this remark may apply to many birds, probably driven away by the indiscriminate manner in which birds of every description are now destroyed by every semi-educated negro who can purchase a fowling-piece.

55. BARBATULA ATROFLAVA (Blumenb.): Sharpe, 16.

Appears to be a scarce bird in Fantee, the only specimens I have seen having been brought from Denkera.

56. BARBATULA CHRYSOCOMA, Temm.: Sharpe, p. 16.

Appears to be extremely rare on the Gold Coast, as during my long residence there I never saw but one specimen, which I obtained myself in a swamp near the Volta.

57. GYMNOBUCCO CALVUS, Temm.: Sharpe, p. 16.

Very common in gardens and cultivated patches near Cape Coast, where its harsh cry is frequently to be heard amongst the fruit-trees, to which it does some damage.

58. TRACHYPHONUS GOFFINI, Schl.: Sharpe, p. 16.

I have only received this Barbet from Denkera.

59. CAMPETHERA NIVOSA (Sw.): Sharpe, p. 17.

Tolerably common in the Fantee forests, especially near Abrobonko and in Denkera.

60. CAMPETHERA CAROLI, Malh.: Sharpe, p. 17.

Not uncommon near Cape-Coast Castle. One specimen was captured alive by a friend of mine in the mess-room of the castle; and subsequently another specimen was shot in one of the batteries overhanging the sea. I have also received it from Denkera.

61. DENDROPICUS PYRRHOGASTER (Malh.): Sharpe, p. 18.

Frequently brought from Denkera, where it appears to be common.

62. Psittacus senegalus, L.: Sharpe, p. 19.

Common on the Volta and in the eastern districts generally. It is distinctly gregarious, although I have sometimes seen solitary specimens. It is a shy bird and not easy of approach.

63. Psittacus erythacus, L.: Sharpe, p. 19.

The finest specimens of the Grey Parrot are brought down from the distant forests of Akim in Fantee to the towns of Cape Coast and Accra, where they meet with a ready sale, and are purchased in considerable numbers at prices varying from half a dollar to one dollar a piece by the sailors in merchant-vessels and mail-steamers. This price only applies to wild birds (generally young ones), mature and accomplished Parrots fetching large sums. I have seen them, whilst up the river Addo, near Lagos, crossing at sunset from their feeding-grounds to their roosting-places. They present the appearance of one continuous flock, passing at a great distance overhead, their screams and chattering being heard long after darkness has set in. They do terrible mischief to the maize-crops, as they waste much more than they consume. They are occasionally eaten when young, and are considered not unpalatable food.

64. Agapornis pullaria (L.): Sharpe, p. 19.

This little bird existed some years since in considerable numbers near Accra and Cape Coast, and might have been seen at any time in little flocks of from eight to ten in the bushes and low vegetation. Now, however, in consequence of the persecution it suffers for the sake of profit by sale to the mail-steamers, it is becoming scarcer in the vicinity of the settlements.

65. Pitta angolensis, V.: Sharpe, p. 20.

The habits of this rather scarce species are difficult to trace. It frequents grassy and rocky jungle, and, I am informed, seldom rises on the wing. I never had an opportunity of seeing one clearly, although once I caught a glimpse of one as he ran into some thick stuff, with his head down, like a Quail.

They are invariably trapped by the natives; and I have had to reject many specimens on account of their legs being badly broken and of their being otherwise disfigured by this mode of capture. The majority of specimens by me have come from Denkera.

66. ALETHE MACULICAUDA, Hartl.: Sharpe, p. 20.
This bird comes from the interior: I have received from Aubinn both adult and young birds collected in Denkera.

67. ILLADOPSIS GULARIS, Sharpe, Ibis, 1870, p. 474.
One or two specimens have reached me from Denkera. Of its habits I know nothing.

68. IXONOTUS GUTTATUS, Verr.: Sharpe, p. 23.
Aubinn obtained a pair of these birds near the town o Kazarako on the 4th and 5th of April, 1871. He gave me the following note:—"Native name *Anoomah-yah*. They are not common; and I could only shoot them as they came to feed upon a tree about a dozen at a time: they were exceedingly watchful."

69. PYCNONOTUS BARBATUS (Desf.): Sharpe, p. 23.
An extremely common bird, found everywhere. It has rather a pretty note, and is very tame. The natives esteem it for food.

70. COSSYPHA CYANOCAMPTER, Cab.: Sharpe, p. 25.
From Denkera.

71. COSSYPHA VERTICALIS, Hartl.: Sharpe, p. 26.
This very graceful little bird forms a prominent object along the roads and paths of the Gold Coast, especially in bushy and rocky places. It is a sprightly bird, with a pretty plaintive note. It is almost always found on the ground, and seems to avoid perching on branches whenever it can do so.

72. PRATINCOLA RUBETRA (L.): Sharpe, p. 27.
I have noticed the Winchat in the vicinity of Accra in considerable numbers at certain seasons of the year.

73. MELOCICHLA MENTALIS (Fras.): Sharpe, p. 32.
Frequents low bushes, in pairs, in the immediate vicinity of

Accra. I have not seen it in Fantee, though I was told by native collectors that it was not rare.

74. Stiphrornis erythrothorax (Temm.): Sharpe, p. 32.
Only from Denkera.

75. Stiphrornis badiceps (Fras.): Sharpe, p. 32.
Not uncommon on the large trees near Abrobonko, and also met with in the interior of Fantee. It is a pretty, active little bird, living on seeds and berries, and is very nimble in its movements. It is frequently seen in company with Sunbirds and other birds, and is altogether a sociable little creature.

76. Camaroptera brevicaudata (Rüpp.): Sharpe, p. 33.
Obtained by Aubinn on the Volta during the expedition of 1870.

77. Nectarinia cyanolæma, Jard.: Sharpe, p. 37.
Not very common in Fantee; but it is found occasionally in the vicinity of Cape-Coast Castle.

78. Nectarinia reichenbachii, Hartl.: Sharpe, p. 37.
I have never observed this curious little Sunbird elsewhere than on the river Volta, where I shot two specimens. They frequented low shrubs near the river-bank, and, I should fancy, were tolerably plentiful. The habits of most of these Sunbirds appear to be identical; and their flight and method of feeding offered nothing noteworthy to the collector.

79. Nectarinia verticalis, Reich.: Sharpe, p. 37.
This Sunbird is not very common. I have shot it in company with *N. cyanocephala*. Occasionally skins have been brought from the interior; and there is no reason to doubt that its habitat extends over the whole of Fantee.

80. Nectarinia cyanocephala (Shaw): Sharpe, p. 37.
Extremely common, especially in the vicinity of Cape Coast. I have already referred to this bird under the head of *N. splendida*, which it resembles very much in its habits.

81. Nectarinia adelberti, Gerv.: Sharpe, p. 37.
This pretty Sunbird is not very common in Fantee, except

at certain seasons of the year, when it frequents the large flowering-trees of the forest in company with many other species.

82. Nectarinia superba, V.: Sharpe, p. 38.

This species, although not so common as *N. splendida* and some other species, is not rare. Its habits appear to correspond in every degree with those of the above-named bird, which it excels, if possible, in the beauty of its plumage.

83. Nectarinia johannæ, Verr.: Sharpe, p. 38.

This beautiful Sunbird is of very rare occurrence on the Gold Coast, and I do not recollect having seen more than three specimens during a stay of many years. Those which I obtained have been from the interior.

84. Nectarinia splendida (Shaw): Sharpe, p. 38.

This beautiful little bird is widely distributed on the Gold Coast. There are very few places where the active little creature cannot be observed sitting on flowering-shrubs and succulent plants. He generally selects some middling-sized shrub or bush for his nest, and he appears exceedingly attentive to the female during incubation.

At certain seasons of the year (about the months of December and January) great numbers can be observed flitting over the huge tulip-shaped scarlet flowers of a species of *Bombax,* which is of frequent occurrence in the open spaces of the forests of Fantee, the trees being at this time entirely denuded of foliage, so that the birds can easily be obtained by the collector, although in the upper branches they are almost invisible from their small size and quick movements. At this period they appear to associate freely with other birds; and from two trees in the neighbourhood of Cape Coast I have obtained specimens of *N. splendida, N. superba, N. adelberti, N. chloropygia, N. subcollaris, N. cyanocephala, N. cyanolæma,* and *N. cuprea,* &c. &c. After each shot they mostly plunged down *en masse* into the low bushes, but returned almost immediately to their feeding-grounds. The beauty of the plumage of *N. splendida* and *N. superba* can only be understood by those who have seen them while alive, or immediately after death, as the colours soon become dull.

85. NECTARINIA FULIGINOSA (Shaw): Sharpe, p. 39.

Moderately common on the Gold Coast. Its habits seem to be identical with those of other Nectariniidæ.

86. NECTARINIA CHLOROPYGIA, Jard.: Sharpe, p. 39.

Widely distributed over the west coast of Africa, and very common on the Gold Coast.

87. NECTARINIA CUPREA (Shaw): Sharpe, p. 40.

Common all over the Gold Coast.

88. NECTARINIA SUBCOLLARIS, Reich.: Sharpe, p. 41.

Very plentiful on the Gold Coast, and found almost everywhere.

89. PHOLIDORNIS RUSHIÆ (Cass.): Sharpe, p. 41.

Two examples of this curious little bird were brought to me by Aubinn from the interior. Its habits are unknown to me.

90. BUTALIS GRISOLA (L.): Sharpe, p. 42.

The English Flycatcher is migratory in Fantee. I shot one on Connor's Hill near Cape Coast in February 1871, and observed other specimens at the same time.

91. CASSINIA FINSCHI, Sharpe, Ibis, 1870, p. 53, pl. ii.

I have recieved this from Denkera and from Accra.

92. ARTOMYIAS USSHERI, Sharpe, Ibis, 1871, p. 416.

First observed by me on the top of a high naked tree on the Sweet River, near Abrobonko, whence it appeared to be pursuing insects. It was alone; and I have never observed another specimen.

It was shot for me by my friend Dr. Mosse, Staff Surgeon, and was obtained with some difficulty, as it fell into the water.

Obtained on or about the 31st of January, 1871.

93. BIAS MUSICUS (V.): Sharpe, p. 43.

From Denkera.

94. SMITHORNIS RUFOLATERALIS, Gray: Sharpe, p. 43.

Only from Denkera.

95. DIAPHOROPHYA CASTANEA (Fras.): Sharpe, Ibis, 1873, p. 172.

Very common in certain parts of Fantee. It appears to like the close vicinity of houses, and I have also observed it along running streams, frequenting the trees overhanging the water. It is an active, bright little bird and reminded me of the common English Wren, in its restless movements. When excited the bright red wattles about the eye appear to become more erect.

96. TERPSIPHONE NIGRICEPS, Temm.: Sharpe, p. 44.

This pretty Flycatcher is exceedingly common upon the Gold Coast. It is an active, sprightly little bird, and quick in its movements.

The sooty black colour of the head and dull tone of the bill in the preserved specimen by no means afford an idea of the brilliancy of its plumage in life. The head is then of a rich black with deep blue reflections in the light, the legs and bill being of a most delicate lilac.

It is frequently to be obtained near Cape Coast.

97. TERPSIPHONE ATROCHALYBEA (Thoms.): Sharpe, p. 44.

Scarce. From Denkera.

98. PSALIDOPROCNE HOLOMELÆNA (Sund.): Sharpe, p. 45.

This little Swallow is to be observed in considerable numbers near Cape Coast, and along the roads towards evening, when they flit about after insects with inconceivable rapidity. A flock generally appears to select some large tree as a station or standing-point; and thither each bird seems to return and rest after a successful foray on the insects.

I have observed them also in considerable numbers in the morning, collecting in bare gravelly places, and lying on the ground enjoying the morning sun. After a little time they flit away, and during the extreme heat of the day appear to affect the forest or large trees in preference to open and exposed places.

99. PSALIDOPROCNE NITENS, Cass.: Sharpe, Ibis, 1872, p. 70.

Not uncommon in the morning on the gravelly slopes of Fort Victoria and the other eminences round Cape-Coast Castle, where it appears to bask in the sun, taking short flights among the surrounding bushes. It is gregarious.

100. Cotyle cincta (Bodd.): Sharpe, p. 45.

I never met with this Martin but once, up the river Volta, where I shot it on a bough overhanging the water; but as great numbers of Swallows appeared skimming the surface of the water, I do not doubt that *C. cincta* was among them.

The specimen then collected was one of a pair.

101. Hirundo rustica, L.: Sharpe, p. 45.

Specimens of this bird, not in complete plumage, have been shot by me on Connor's Hill, near Cape Coast, about the months of February and March. I was unfortunately not at first aware of its identity with the common Swallow of Europe, or I would have noticed its movements more particularly. It appears to leave the coast about April, as I never observed any after the 1st of May.

102. Hirundo leucosoma, Sw.; Sharpe, p. 46.

Not very common in Fantee, although occasionally met with about the small native "crooms," or hamlets, in the interior. The last specimen I collected for Mr. Sharpe was one of a pair that had selected for their nidification the overhanging rafters of an empty room in a small country-house belonging to the Wesleyan Mission, where I happened to be staying. I have never seen them away from buildings; nor have I observed them in large towns. They are generally met with in pairs, and are graceful and attractive in appearance. They appear to show great solicitude for their young.

103. Hirundo senegalensis, L.: Sharpe, Ibis, 1872, p. 71.

This handsome Swallow has only been observed by me on the plains of Accra, in the eastern districts of the Gold Coast, I never saw it in the forest.

They are generally to be found in small companies of eight or ten perched on the tops of high decayed or leafless trees, and occasionally leave their posts for food, uttering a peculiar and pretty cry. Water-pools attract them much in this sparsely watered district. Their flight is powerful and graceful beyond that of other Swallows.

The natives hold them in some veneration, and call them "God's children," and appeared scandalized at my shooting them, although they were satisfied when I explained the purpose for which I was collecting their skins, and that I was not impelled to do so from any wanton or inhumane motive.

104. Hirundo gordoni, Jard.: Sharpe, p. 46.

Tolerably common in the eastern or Accra-district of the Gold Coast, and now and then met with in the Fantee districts. This is a bold handsome bird, fond of building about houses, and much resembling *H. rustica* in its habits, especially in its low swooping flights over level open ground. It is frequently to be found basking in the open roads and rolling itself in the dust, or as the natives express it, "washing itself."

105. Hirundo puella, Temm.: Sharpe p. 47.

This, the prettiest of all the West-African Swallows, is tolerably common in and about Cape Coast at certain seasons of the year. I did not observe it until February or March, but cannot positively assert that it is a regular migrant. A pair frequented the grounds of Government House at Cape Coast during the spring of 1871, building in a large stone arched tank at the far end of the lawn. They appeared, in common with many African species, to be fond of sitting on the grass or gravel in the early morning. I have generally observed them in pairs, sometimes singly, but never in flocks.

106. Dryoscopus major, Hartl.: Sharpe, p. 47.

Commonly observed in the bushes about the settlements. It is a powerful bird for its size, and appears to be dreaded by other small birds.

107. Chaunonotus sabinei (Gray): Sharpe, p. 48.

Once very common near the settlements, but now not often to be seen. Its habits resemble those of *Lanius smithi*; but it is not so fond of open spaces as the latter, and keeps more to the thick forest.

108. **Laniarius barbarus** (L.): Sharpe, p. 48.

This Shrike appears to inhabit the whole range of the west coast, from Senegambia in the north to some distance below Lagos, where I have frequently shot it.

It frequents low bushes, and is very active during the whole day in its pursuit of large insects, beetles, caterpillars, &c. It very probably attacks nestlings, but is too slow in its movements to attempt full-grown birds. The male and female during the breeding-season may be frequently observed pursuing each other over and among the low shrubs, uttering a short harsh cry.

109. **Laniarius hypopyrrhus** (Verr.): Sharpe, p. 49.

This magnificent Shrike is not common upon the Gold Coast, and I have consequently obtained but few specimens. I have had a mutilated bird brought to me, which had been killed in the immediate vicinity of Cape Coast; but by far the greater number of specimens came from the Fantee forests, and were brought by Aubinn.

110. **Laniarius sulfureipectus** (Less.): Sharpe, p. 49.

From Denkera; occasionally from the vicinity of Cape Coast.

111. **Laniarius multicolor**, Gray: Sharpe, p. 48.

Tolerably common near Cape Coast, but more frequent in the interior. Their habits much resemble those of *L. barbarus*.

112. **Nicator chloris** (Val.): Sharpe, p. 49.

From Denkera.

113. **Sigmodus caniceps**, Temm.: Sharpe, p. 50.

Received from Aubinn, who procured it in Denkera.

114. **Lanius smithi**, Fras.: Sharpe, p. 50.

Very numerous in Fantee and on the whole Gold Coast.

It is fond of open places, and hawks after insects, commonly perching on a bare branch or solitary shrub in an open position, from which it takes its flights.

It has, unless I much mistake, a pretty bell-like note, which it utters from time to time, and which is responded to by the female. I have several times traced this pretty note to a bush or shrub, and the only bird that I could discover was this little Shrike; and I fancy I am not in error as to its being the call to the female.

115. CORVINELLA CORVINA (Shaw): Sharpe, p. 51.

I never but once met with this bird on the open plains in the neighbourhood of Accra; it was perched on a small tree in the open, and appeared to be preying on some large insects which were thickly scattered about the grass.

I merely wounded it in my attempt to kill it; and I had great difficulty in finding the specimen, as it had crouched under a tuft of withered grass, much of its own colour. It made a desperate resistance when I attempted to handle it, and bit and scratched with great energy, screaming loudly and defiantly the while. The native who was with me said that it was not very common.

116. LANICTERUS XANTHORNITHOIDES, Less.: Sharpe, p. 52.

This rather shy bird is to be obtained in most parts of Fantee. I never observed more than two together.

I am much inclined to believe that the red-shouldered bird (*L. phœniceus*) is the immature or young bird of this species; and the close resemblance of the females would tend to confirm this supposition.

117. CAMPEPHAGA AZUREA, Cass.: Sharpe, p. 52.

I never met with more than one example of this lovely bird. This specimen was collected in the interior by Aubinn.

118. ORIOLUS BRACHYRHYNCHUS, Sw.: Sharpe, p. 54.

Appears common in the forests of the interior, whence several specimens have reached me through Aubinn.

119. ORIOLUS NIGRIPENNIS, Verr.: Sharpe, p. 54.

Inhabits the Fantee forests, and is occasionally found near Cape Coast.

120. PHOLIDAUGES LEUCOGASTER (Gm.): Sharpe, p. 54.

This bird is widely distributed over the whole of the Guinea Coast, and is of very general occurrence on the Gold Coast. It is usually observed in pairs, and occasionally in some numbers. I have seen the low bushes in the vicinity of the town of Lagos (on the Slave Coast) tenanted by them in large quantities, the brilliant plumage of the male contrasting markedly with the sober colouring of the female and the pied tints of the immature birds. They were feeding eagerly on the berries of a description of "wait-a-bit" thorn, very abundant in some localities of the Guinea Coast.

The male, in full plumage, seen flying low in the bright sunlight, is undoubtedly one of the most exquisite birds in Africa; and a marked difference in colour is observable among even full-plumaged males, some having coppery or golden reflections on the rich puce colour of the feathers, whilst others decidedly incline to a deep violet-blue of equal beauty.

Their habits appear to be similar to the Shining Grackles' in general, and did not present any thing noteworthy to my observation.

121. LAMPROCOLIUS CUPREOCAUDUS (Temm.): Sharpe, p. 55.

Common in most districts of the Gold Coast, but especially on the plains of Accra. It associates in flocks with *L. auratus*, and much resembles in its flight and habits our English Starling.

122. LAMPROCOLIUS PORPHYRURUS, Hartl.*

Tolerably common up the Volta, where it is to be observed in small flocks. I have also received it from Fantee and the Accra districts.

123. LAMPROCOLIUS AURATUS (Gm.): Sharpe, p. 55.

Large flocks of this brilliantly feathered Grackle are to be observed on the plains of Accra, especially at certain seasons, when they assemble to feed on berries and seeds, which are found in abundance in such localities. They are frequently in company with a smaller kind, and are generally difficult of approach.

They are annoying to the sportsman, as they appear to warn other game; and I have not unfrequently been disappointed of a shot at a covey of Francolins by the general uprising of the noisy Grackles. They appear to resemble

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[* This new species will be described by Dr. Hartlaub from specimens brought by Mr. Ussher.—R. B. S.]

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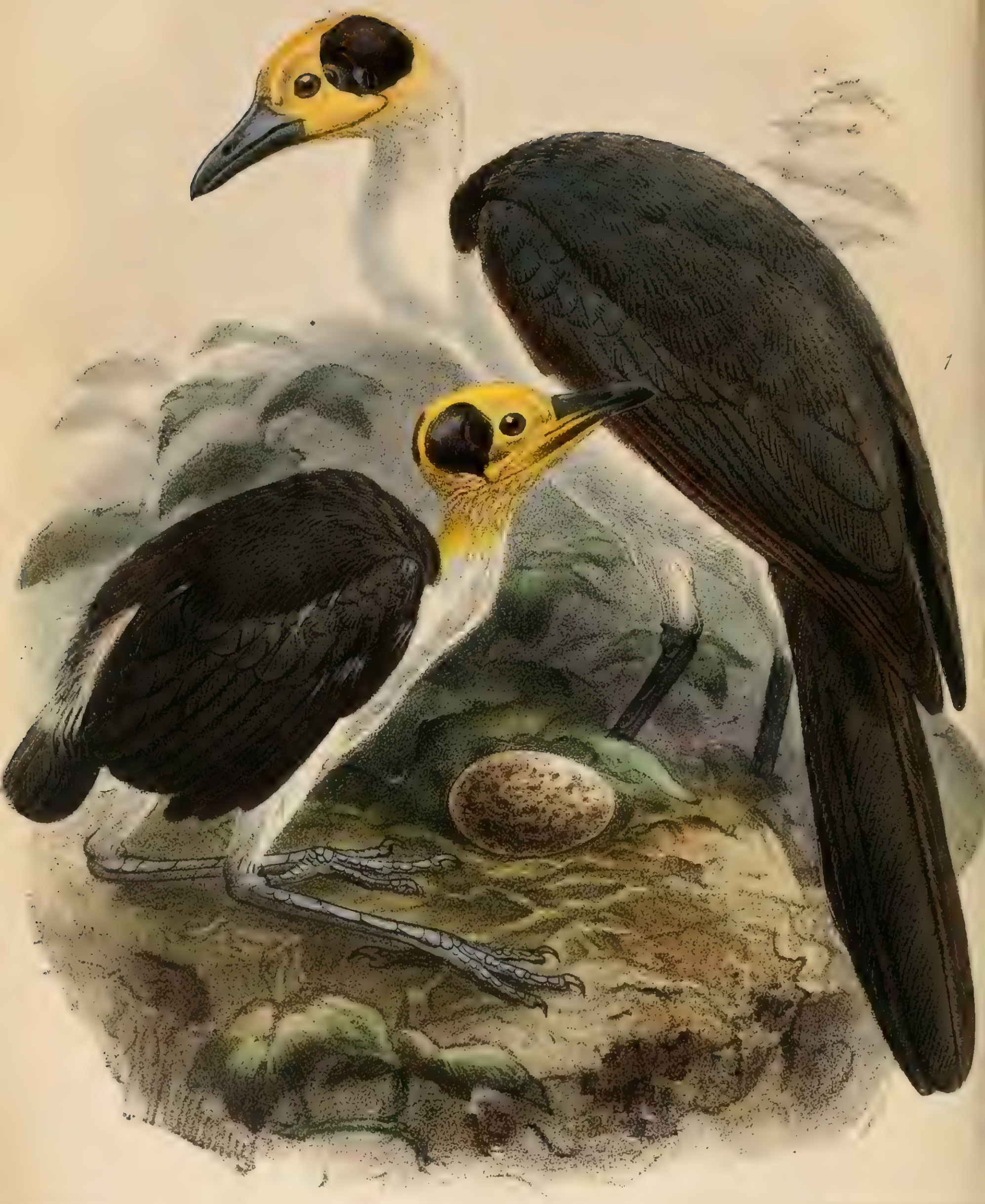

J. G. Keulemans lith.

M & N. Hanhart imp.

PICATHARTES GYMNOCEPHALUS.

English Starlings in their habits; and their flight is also rather like that of these birds.

124. CORVUS SCAPULATUS, Daud.: Sharpe, p. 57.

This handsome Crow is widely distributed on the Gold Coast, as well as in all parts of Western Africa between Senegambia and Lagos. He is a very general scavenger, and takes the place of our common Carrion-Crow, differing from this latter, however, in that he is frequently seen in large numbers. I have often stood, towards sunset, on the low range of hillocks bordering the Salt Lake at Accra, and watched them flying homewards in a continuous but scattered flock until dark. They are by no means shy, but appear to have an instinctive knowledge of a gun, like the English Rook. I have waited sometimes a considerable time endeavouring to get a shot at them; but although many have appeared coming in a straight line towards me, they have invariably diverged from their course when within a hundred yards, and kept a safe distance between us. Under ordinary circumstances, when not alarmed, they will permit of a close approach, especially if alone.

125. PICATHARTES GYMNOCEPHALUS (Temm.): Sharpe, p. 57. (Plate II.)

Three of these singular birds were collected by me during my last sojourn on the Gold Coast. The skins all came from Denkera, and were in very good preservation. They had not been before brought to Cape Coast, and are said to be rare.

I could not obtain much information as to their habits. Aubinn, who brought me the skins, affirms that they are found in rocky forest-grounds, generally in the neighbourhood of streams, that they build amongst rocks, and that they feed on fresh-water shell-fish, snails, and reptiles. This statement, however, I cannot vouch for personally.

The young bird and the egg here figured along with the adult (Plate II.) were procured by Mr. Aubinn in Denkera, and are now in the British Museum.

126. HYPHANTORNIS CASTANEOFUSCA (Less.): Sharpe, p. 59.

Very common in Fantee, especially round Cape Coast.

They are invariably found in grassy swampy places, and are particularly fond of the bamboos or canes, whence their nests may be seen depending in hundreds. They are very sociable, and are occasionally captured as cage-birds.

127. Hyphantornis brachyptera (Sw.): Sharpe, p. 59.

Frequently observed on the Volta and in the eastern districts along with other Weavers.

128. Hyphantornis personata (V.): Sharpe, p. 59.

This little Weaverbird was tolerably common on the Volta, where I noticed it in flocks.

129. Hyphantornis textor (Gm.): Sharpe, p. 59.

This bird is everywhere common. They are very gregarious, and build their nests in great quantities on cocoa-nut palms and silk-cotton trees (*Bombax ceiba*). They are very good eating.

130. Malimbus cristatus (V.): Sharpe, p. 60.

From Denkera.

131. Malimbus rufovelatus (Fras.): Sharpe, p. 60.

From Denkera.

132. Malimbus nitens (Gray): Sharpe, p. 60.

I have received this bird mostly from Denkera, but have shot it myself at Abrobonko, near Cape Coast.

133. Malimbus scutatus (Cass.): Sharpe, p. 60.

Only from Denkera.

134. Malimbus nigerrimus (V.): Sharpe, p. 60.

This species is decidedly scarce in Fantee.

135. Nigrita uropygialis, Sharpe, Ibis, 1869, p. 384, pl. xi. fig. 2.

Though not absolutely so common as *N. emiliæ,* this species is still not rare, Aubinn having procured me several specimens.

136. Nigrita emiliæ, Sharpe, Ibis, 1869, p. 384, pl. xi. fig. 1.

Very common in Fantee, noticed also on the Volta.

137. Nigrita bicolor, Hartl.: Sharpe, p. 61.

I procured this bird on the Volta, and have found it in other parts of Fantee.

138. Euplectes flammiceps (Sw.): Sharpe, p. 62.

Widely distributed over the Gold Coast with *E. franciscanus*.

In the rainy season, from May until August, these birds assume the full splendour of their plumage, and affect tall grassy spots near swamps, where they may be seen dotting the long grass like rubies.

In the dry season they are no longer to be distinguished, and probably assume a dull plumage, like the female. I have seen specimens evidently in a state of transition.

E. franciscanus. The above notes also apply to this species.

139. Euplectes afer (Lath.): Sharpe, p. 62.

Seen at times in large flocks, swamps being preferred by them. The males are very beautiful in their full plumage, and when rising from the ground present a most brilliant appearance.

140. Penthetria macrura (Gm.): Sharpe, p. 63.

Extremely common on the Gold Coast and in other parts of West Africa. Its habits much resemble those of *Vidua principalis*; and it is frequently seen with that bird and other Finches in grassy places.

141. Vidua principalis (L.): Sharpe, p. 63.

Very numerous over the whole Guinea Coast. It is not very sociable as regards its own species, but very fond of attaching itself to the large flocks of small Finches and Bengalis which abound in the fields of cassava and maize at certain seasons of the year.

Its long tail-feathers give it a peculiar appearance in flight.

142. Spermestes cucullata, Sw.: Sharpe, p. 64.

Exceedingly common on the west coast, where large flocks of them, in company with other Bengalis and Finches, rise when disturbed from the long grass, on the seeds of which they are very fond of feeding. They are captured in some quantities by the natives on various parts of the coast, especially at the Gambia and in the French settlements in Senegal, whence they are exported with many other varieties of Finch to Europe.

143. SPERMESTES BICOLOR (Fras.): Sharpe, p. 64.

Not quite so common as *S. cucullata* and others, but of frequent occurrence on the Gold Coast.

144. LAGONOSTICTA RUFOPICTA (Fras.): Sharpe, p. 66.

This pretty little Bengali is one of the commonest birds on the west coast of Africa. It is extremely tame, frequenting the vicinity of houses, and hopping about the yards with the confidence of the common House-Sparrow of England. The males in full plumage are extremely pretty.

They build in low grass, on the seeds of which they also feed, and are gregarious; in the bush they will associate in flocks with other Bengalis.

145. SPERMOSPIZA HÆMATINA (V.): Sharpe, p. 68.

Scarce. Procured by Aubinn in Denkera.

146. PYRENESTES CAPITALBUS, Temm.: Sharpe, p. 68.

This bird is not common on the Gold Coast, although Aubinn obtained it for me once or twice. Captain Haynes also collected one or two specimens near Cape Coast and Accra.

147. MACRONYX CROCEUS (V.): Sharpe, p. 73.

This handsome Lark is tolerably common in all parts of the Gold Coast, and in many other parts of West Africa. It is always to be obtained in open grassy spaces, and is almost invariably in pairs.

The male appears very fond of the female; and while the latter remains on the ground the male will take short flights or "soars" above her.

They will frequently perch on bushes, especially if disturbed; but, as a rule, they prefer marshy or grassy ground.

148. TRERON CALVA (Temm.): Sharpe, Ibis, 1869, p. 194.

Appears on the Gold Coast in large flocks at certain seasons of the year; I have generally observed it from January to March.

They are very destructive, and are also much shot for food. I have also seen them in large numbers in the mangrove-forests bordering the creeks around Sierra Leone and the Lagos Lagoons.

149. **Turtur senegalensis** (L.): Sharpe, Ibis, 1872, p. 73.

This Dove is common in the eastern districts of the Gold Coast, and seems especially fond of the immediate vicinity of houses or villages. All those shot by me were obtained among the houses of Christiansborg and in the ruins of the fort, where they appear to build in some numbers. They are also to be met with near the little villages of the interior eastern districts; but I have not seen them in Fantee.

150. **Peristera puella**, Schl.: Sharpe, Ibis, 1869, p. 387.

All the specimens of this Dove which I have received were brought from Denkera by Aubinn. It appears to be common in the interior forests of Fantee.

151. **Numida meleagris**, L.: Hartl. p. 199.

Exists in some numbers in Fantee and the eastern districts in a wild state, but is difficult to flush; near the settlements it is rare. On the Volta they were more easily obtained. They present many varieties when domesticated, from pure white to the normal colour. I have seen a company of seven white Guinea-fowls at Cape Coast in the yard of a native tenement.

152. **Numida cristata**, Pall.: Hartl. p. 199.

N. plumifera, Sharpe, Ibis, 1872, p. 73 (*lapsu calami*).

This fine Guinea-fowl is not uncommon upon the Gold Coast, where I have seen several specimens. They are found in the vicinity of Winebah, and on the interior plains of Accra.

I have had them alive in confinement; and they appear to thrive well, and could probably be domesticated. But they are a great nuisance amongst other birds, especially as regards their congener *N. meleagris*, as they are of a pugnacious disposition, and are always vindictively disposed towards the tamer species.

153. **Francolinus lathami**, Hartl.: Sharpe, Ibis, 1869, p. 387.

This pretty Francolin appears to be common in the interior of Fantee; but I have never seen them alive. All the specimens collected by me were obtained from Aubinn. They lay from eight to ten eggs of a light pink colour.

154. Francolinus bicalcaratus (L.): Sharpe, Ibis, 1872, p. 73.

Common all over the Gold Coast. On the plains of Accra especially they abound, and are found in coveys of from four or five to a dozen. They frequent cassava-plantations, and do much damage to the young plants, as also to ground-nuts and maize.

Towards sunset the loud cry of the male bird is heard, and he can be observed, generally stationed in a commanding position on the top of an ant-hill or low tree, calling together his family.

They are fine birds, and afford good sport, as well as excellent food for the table. Unless killed dead, they generally manage to drag themselves through the grass, and are almost impossible to find; and as they are very strong on the wing, not more than fifty per cent. of those killed can generally be brought to bag.

155. Eupodotis melanogastra (Rüpp.): Sharpe, Ibis, 1872, p. 73.

This Bustard is distributed widely over the eastern districts and plains of Accra. It is, like most of its race, an exceedingly shy bird, and when once aware of the sportsman is impossible to approach. I have marked them down in low short grass, where it has appeared impossible for them to pitch without being seen, but have never yet succeeded in getting the bird to rise, as it will either crouch or run with its head down with incredible speed, and perhaps regain its original place of rest. They are frequently surprised, however, in long grass by approaching them up wind, and when on the wing present a very easy shot.

They are a most excellent bird for the table, and consequently much prized; and the "Bush-Turkey," as it is called by the settlers, is always a welcome present. The meat possesses a peculiarity in common, I believe, with some other game birds, viz. that it is brown on the breast, while the flesh of the thighs is white, like that of a chicken.

156. Glareola pratincola (L.): Hartl. p. 210.

This bird is not uncommon in the salt lakes and lagoons extending between Accra and the river Volta along the sea-line. It is gregarious, being generally found in small companies of from ten to twenty. It is, however, in common with many other water-birds and wild-fowl, becoming much rarer, especially in the neighbourhood of the settlements.

157. Glareola cinerea, Fras.: Sharpe, Ibis, 1870, p. 487.

This pretty Pratincole was not uncommon on the Volta.

There were generally two or three together; but they were some little distance apart from each other, appearing to select independent bits of ground for feeding, although they would rise simultaneously and fly in the same direction.

They run with great rapidity, and almost always affect large open sandbanks, which makes them difficult of approach.

158. Balearica pavonina (L.): Hartl. p. 218.

I have observed one or two specimens of this Crane up the river Volta; but it is by no means common. In other districts, as on the rivers Gambia and Niger, it is of frequent occurrence, and is easily domesticated, forming a very beautiful addition to the grounds of the houses of the settlers.

159. Nycticorax griseus (L.): Sharpe, Ibis, 1872, p. 74.

Common on Winebah River; not observed elsewhere.

160. Butorides atricapilla (Afzel.): Sharpe, Ibis, 1869, p. 194.

Exceedingly common along lagoons and about the roots of the mangrove-trees, where it may be seen at low tide running along the mud with its crouching gait. It is not a shy bird, and is rarely molested by the natives. Its food consists of small crabs and other shell-fish, beetles, and a small fish called the "jumping fish," which collects in numbers on the mangrove-mud, and propels itself with its fins or flappers at some pace when disturbed.

161. Platalea tenuirostris, Temm.: Hartl. p. 226.

I have every reason to believe that this bird frequents the Gold Coast, as natives have described it to me.

I have shot it near Sierra Leone, in Yawry Bay, at the mouth of Campbell-Town Creek, where I observed it in considerable numbers, in company with a large flock of Pelicans. Both descriptions of birds had their eggs on a large solitary rock about one mile from the land; and the islet was absolutely covered with them.

162. NUMENIUS PHÆOPUS (L.): Sharpe, Ibis, 1872, p. 74.

163. NUMENIUS ARCUATUS (L.): Sharpe, *l. c.*

A very common bird along the Gold Coast, and, indeed, apparently in all parts of West Africa. It differs in no wise in its habits from the European bird, and is wary and difficult of approach. *N. phæopus* is not perhaps so common, however, on the Gold Coast as *N. arcuatus*; and this remark applies to the whole coast from the Gambia to Lagos. In the neighbourhood of Sierra Leone, however, I have noticed it more frequently.

164. TOTANUS CALIDRIS, Bechst.: Sharpe, Ibis, 1872, p. 74.

Tolerably common on the Gold Coast and at the mouths of the rivers in Western Africa.

165. PARRA AFRICANA (Gm.): Sharpe, Ibis, 1869, p. 388.

In inland ponds and waters this pretty bird can almost always be observed. It prefers still reaches of river and quiet waters covered with water-plants, over which it runs with astonishing rapidity in search of prey.

Its flight is slow and heavy; and it never flies further than across the river, or, if disturbed, to the nearest shelter.

They are frequently to be observed in considerable numbers, and appear to be very sociable.

166. RALLUS OCULEUS (Temm.): Sharpe, Ibis, 1869, p. 195.

This bird was brought to me from the interior by Aubinn.

167. NETTAPUS MADAGASCARIENSIS (Gm.): Hartl. p. 247.

I believe that this bird is found on the Volta, as I once noticed a small flock of very small Duck-like birds which appeared to answer to its description, in the higher reaches of the river. In the neighbourhood of Lagos, and in the lagoons near the settlements of Palma and Leckie, they are tolerably common and frequently shot for food.

168. Procellaria pelagica, L.: Sharpe, Ibis, 1872, p. 74.

169. Procellaria oceanica, Kuhl: Id. *l. c.* p. 74.

Both these Petrels were brought to me by children, captured on the sea-shore near Cape-Coast Castle.

170. Rhynchops flavirostris, V.: Shelley, B. Egypt, p. 302, pl. xiv.

One specimen of this bird was shot by me some years ago in the lagoons near Lagos. I have also noticed them on the Volta.

VI.—*Notes on the Synonymy of some Indian and Persian Birds, with Descriptions of two new Species from Persia.*

By W. T. Blanford, F.G.S., C.M.Z.S., &c.

During a critical examination of the large collections of birds made by Major St. John and myself in Persia, I have had occasion to compare together several European, Asiatic, and African species. Recently I have, in company with Mr. Dresser, examined all Hemprich and Ehrenberg's types, and several of Lichtenstein's, in the Berlin museum; and I have also visited the Senkenbergian museum at Frankfort for the purpose of comparing some of Rüppell's typical specimens. The results of our joint examination of Hemprich and Ehrenberg's types will appear separately; but as I have, independently of that examination, been able to identify several Indian and Persian birds with European or African forms, I think it may be interesting to give some of the principal results, reserving all details for a fuller account, which I hope hereafter to be able to publish, of the Persian fauna.

The identifications made are chiefly amongst the Warblers and their allies; and the following are the most important. The oldest specific name is given in larger type in every case.

1. *Crateropus salvadorii*, De F. 1865 = *Malacocercus* huttoni, Blyth, 1847, = *Chatorhea caudata* (partim), Jerdon. It is a true *Crateropus*, as are also *Chatorhea* (or *Malacocercus*)

caudata, Dum., and *C. gularis,* Blyth, unless, indeed, the group containing *Crateropus chalybæus,* Bp., *C. acaciæ,* Rüpp., &c., be removed from the genus (as is done by Gray in his Hand-list), in which case they would form a subgeneric section. *Crateropus huttoni* is a well-marked species, fairly distinguishable by both its size and colour from *C. caudatus.* There is a specimen of the former from Candahar in the British Museum which agrees with skins obtained by Major St. John near Shiráz, the locality of De Filippi's species.

2. *Melizophilus striatus,* Brooks (P. A. S. B. April 1872, p. 66), is not a *Melizophilus.* It has ten tail-feathers only, and is an aberrant *Drymœca,* and identical with *D. inquieta,* Rüpp. Rüppell's figure in the Atlas is so bad that I do not wonder at the bird not being recognized. The species, however, is very well described by v. Heuglin in 'The Ibis' for 1869, p. 129. The affinities of the bird are shown not only by the number of its tail-feathers, but also by its nest, which is domed, as in other species of *Drymœca* (see Ibis, 1872, p. 180).

It appears to me that this bird has far better claims to form the type of a separate genus or subgenus than *D. gracilis,* the type of *Burnesia*; and I think we should follow Sundevall in using for it the term *Scotocerca,* as he has lately proposed in his 'Methodi Naturalis Avium disponendarum Tentamen' (p. 7).

By the kindness of Mr. Tristram I have been enabled to examine his types of *Drymœca eremita* and *D. striaticeps.* The former* is certainly identical with *D. inquieta*; and I much doubt if the latter be more than a variety. It is rather paler in colour both above and below; the striæ on the throat and upper breast are very faint, indeed scarcely to be recognized; and the abdomen and flanks are nearly white or only pale buff. But all these characters are variable in *D. inquieta*, and Mr. Hume describes a specimen from Sind without striæ on the chin and throat ('Stray Feathers,' i. p. 201).

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* In the measurements given for *D. striaticeps* and *D. eremita* in the original descriptions (Ibis, 1859, p. 58, and 1867, p. 76), the length of the wing, 2·75 inches, must, I think, be a misprint for 1·75. I make the wing in the two specimens of *D. eremita* lent me by Mr. Tristram measure 1·8 and 1·85 inch respectively, tail the same in each case as the wing; and in the two specimens of *D. striaticeps* the wing is 1·82 in both birds, tail 1·87 and 2·02 inches.

3. The eastern race of the Orphean Warbler, *Sylvia* JERDONI, Blyth (1847), is identical with *S. orphea*, var. *helena*, Hempr. & Ehr. (1828); and I am inclined to suspect that the type of *S. crassirostris*, Rüpp. (1826), is merely an individual variety, in which case Rüppell's name would have priority. The bird in the Frankfort museum, however, has a decidedly thicker bill. The eastern race is rather larger than *S. orphea* from Western Europe, and has a longer bill, the two races passing into each other and breeding together where they meet in the Levant, as such closely allied forms generally do.

4. SYLVIA RUBESCENS, sp. nov.

Inter *S. currucam* et *S. melanocephalam* fere media, ab illâ capite nigrescente, dorso saturatiore, tarsisque valde pallidioribus, ab hac coloribus omnino dilutioribus, pectore rubescenti-albo, haud cinereo, distinguenda.

Hab. in Persia, circum Shiraz et Isfahan.

Male in summer plumage. Head above, with the lores and feathers just below the eye, nearly black; ear-coverts dark ashy; mantle dark ashy, with a slight brownish tinge; quills brown; tail blackish brown; outer pair of rectrices white, except the basal portion of the inner web; the next two pairs tipped white, the white diminishing inwards; but in a newly moulted specimen there is a narrow white tip on the fourth pair of rectrices (counting from the side). Lower parts white, with a well-marked pink tinge, especially on the breast. The white of the throat well defined at the edge, and not passing into the dusky cheeks. Bill dusky above, pale beneath; legs brown. Wing 2·38 to 2·45 inches; tail 2·15 to 2·3; tarsus 0·78 to 0·8; culmen 0·49 to 0·53 (bill at front about 0·45). First quill scarcely longer than the greater wing-coverts, 1·8 inch shorter than the third, which is the longest, second quill 0·1 inch shorter than the third and equal to the sixth.

A specimen from Southern Persia, apparently in winter-plumage (the label has been lost), resembles *S. curruca* more nearly in colour, the back being brown and the head only blackish towards the forehead; but still the anterior portion of the head is darker than in *S. curruca,* and the tarsi, of course, are quite different in colour.

Young birds are brown above, the tail blackish; the secondary quills have pale rufous edges; and there is a buff tinge on the lower surface.

It is possible that this may be the bird obtained by Jerdon in Southern India, and described by him in his "Catalogue of the Birds of Southern India" (Madras Journ. Lit. and Sci. vol. x. p. 268) as *S. cinerea.* This bird he assigned, in his 'Birds of India,' to Blyth's *S. affinis*; but as in the first description the bill and legs were said to be brown, it may have belonged to the present species.

5. *Sylvia* NANA, H. & E., has been shown to be identical with *S. delicatula,* Hartl. (by Finsch and Hartlaub and by v. Heuglin), and with *S. doriæ,* De Filippi (by Salvadori). Another synonym I feel satisfied is *Salicaria aralensis,* Eversmann (Journ. f. Ornith. 1853, p. 286).

6. *Hypolais upcheri,* Tristram, is *Curruca* LANGUIDA, H. & E. I have examined the types of both species, that of the latter in the Berlin museum, the former kindly lent to me by Mr. Tristram for the purpose. *H. languida* is a form which has been overlooked or confounded with *H. elæica* by several writers*.

7. The various forms described as *Salicaria elæica,* Lindermayer, *Curruca pallida,* Hempr. & Ehr., *Sylvia* CALIGATA, Licht., *Sylvia rama,* Sykes, and *Jerdonia agricolensis,* Hume, all, I believe, belong to one species, varying much in size and slightly in structure, and belonging to the genus *Hypolais.* The western form, *H.* PALLIDA, H. & E.,=*elæica,* Linder-

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* In justice to Mr. Tristram and others who have given new names to species formerly described by Hemprich and Ehrenberg, it is only right to say that not only is the 'Symbolæ Physicæ' of the last-named writers a rare work, but their descriptions are in many cases insufficient, and that the species can only be identified by comparison with the types preserved in the Berlin museum.

mayer, has a rather broader bill, and is a somewhat larger form than *H.* CALIGATA, Licht.,=*rama,* Sykes, whilst *H. agricolensis,* Hume, is a still smaller race; but all pass, I think, into each other so thoroughly that I cannot distinguish the different forms. The type specimen of *Sylvia caligata* has, I believe, the bill distorted or altered.

8. *Acrocephalus brunnescens,* Jerdon, is identical with *Curruca* STENTOREA, H. & E.

9. ERITHACUS HYRCANUS, sp. nov.

E. affinis *E. rubeculæ,* sed pectore rufo saturatiore, supracaudalibus ferrugineis, fronte rufa latiore et rostro longiore distinguendus.

Hab. in provinciâ Persicâ hodiernâ Ghilan dictâ (anticè Hyrcaniæ parte) ad littus meridionale maris Caspii.

Colour above umber-brown, more or less tinged with olivaceous; upper tail-coverts dull ferruginous; tail-feathers rufous-brown, the outer webs having a strong rusty tinge towards the base; quills and wing-coverts umber, the margins rather paler and more rufous; forehead, with the anterior portion of the region above the eyes, sides of neck below the ear-coverts, throat, and breast rich ferruginous red, deeper than in *E. rubecula*; lower breast and abdomen white; under tail-coverts isabelline; sides of abdomen, flanks, and thigh-coverts pale rufescent olive.

This is a well-marked race of the Common Redbreast, peculiar, so far as I know, to the forest country on the southern shores of the Caspian. *E. hyrcanus* is easily distinguished from *E. rubecula* by its more deeply coloured breast, and especially by the upper tail-coverts and edges of the tail-feathers near their base being deep ferruginous instead of olive.

10. I quite agree with Mr. Hume ('Stray Feathers,' i. p. 189) that *Ruticilla phœnicuroides,* Moore, is identical with *R.* RUFIVENTRIS, Vieill.; but *R. erythroprocta,* Gould, which Mr. Hume also unites with *R. rufiventris,* appears to be distinct, as in the former the black colour comes lower down the breast, and all the under wing-coverts are black, whilst in *R. rufiventris* they are chiefly red. *R. semirufa,* H. &. E., is a small race of *R. rufiventris.*

11. I believe that *R. rufogularis,* Moore, is probably the same as *R.* ERYTHRONOTA, Eversm. Unfortunately the type specimen of the former is inaccessible at present, being amongst the collection formerly belonging to the East-India Company; and I have been unable hitherto to see Eversman's description of *R. erythronota,* there not being a copy of the work in which it is described (Addenda ad Pall. Zoog. Rosso-As., Fasc ii.) in the British Museum, the Zoological Society's library, or in any private library to which I have access*.

12. DAULIAS HAFIZI (Severtzov).

Luscinia hafizi, Sev., Turkestanskie Jevotnie, p. 120.
"Bulbul," Persicè.

D. a peraffini *D. luscinia* (vel *Luscinia vera*) cauda semipollice longiore atque magis rotundata distinguenda. Notæum vero plerumque minus rufum et gastræum pallidius quam in specie Europæa; sed specimina quædam ex Persia allata cum Europæis colore congruunt. Long. alæ maris 3·4–3·5, caudæ 2·9–3·05, feminæ al. 3·25, caud. 2·87 poll. Angl.

The Persian Nightingale, the true Bulbul of the Persians (no connexion of the *Pycnonoti,* to which the same name is applied by the natives of India), appears to differ constantly from the European bird in its longer and more rounded tail. The plumage is, as a rule, rather less rufous above and paler below, especially on the throat and breast; but some Persian specimens agree fairly in colour with their western representatives. The song of the Persian bird, as Major St. John pointed out to me, and as had previously been noticed by Mr. Blyth (Ibis, 1867, p. 18), differs greatly from that of the European Nightingale. It is shorter and less varied.

I believe this is the bird which Severtzov has called *Luscinia hafizi,* because Herr Meves, of Stockholm, showed me a Turkestan specimen received from Severtzov. Severtzov's work is entirely in Russian, and abounds in errors of nomenclature, so that I cannot be quite certain. No better name for the Persian Nightingale could well be selected than that which commemorates the great poet of Shiráz. A still larger form of Nightingale from Turkestan has been recently described by Dr. Cabanis as *L. golzii* (Journ. f. Ornith, 1873, p. 79).

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* [I possess one livraison of this work (the 3rd), which was given me by the late Prince Charles Bonaparte. I was told by him that the scarcity of the book was occasioned by the copies having been destroyed by a fire shortly after publication. Further information on this point and as to where a perfect copy may be consulted, would be very acceptable to—P. L. S.]

13. *Saxicola kingi*, Hume, is apparently identical with S. CHRYSOPYGIA, De Filippi.

14. I agree with Mr. Hume in considering *Lanius arenarius*, Blyth, the same as *L. isabellinus*, H. & E.

15. *Emberiza cerrutii*, De Filippi (1865, Viaggio in Persia, p. 13, note) is E. HUTTONI, Blyth (1849). *E. shah* (Bon. Consp. Gen. Av. i. p. 465), to which Gray, in his Hand-list, refers *E. cerrutii*, appears to me to be the Persian form of *E. hortulana*.

16. The pale Eagle Owl from Kúlú, noticed by Mr. Hume in 'Stray Feathers' (vol. i. p. 315), and for which, if considered distinct, he proposes the name of *Bubo hemachalana*, is very probably the same as *B. sibiricus*, Eversmann, figured in Gray's 'Genera of Birds' (pl. xiii.) under the name of *B. cinereus*. It may probably be separable as a distinct race from *B. maximus*, and appears to have a wide range in Asia. I have a specimen shot by Major St. John near Shiraz, in Persia. Its occurrence in the Himalayas is mentioned by Sclater, P. Z. S. 1860, p. 99, and again in the Appendix to Jerdon's 'Birds of India' (vol. ii. p. 870).

VII.—*Remarks on the Birds of Juan Fernandez and Mas-a-fuera.* By EDWYN C. REED, of the National Museum of Santiago.

I HAVE just read an interesting article by Mr. Sclater in 'The Ibis' for 1871, on the land-birds of Juan Fernandez and Masa-a-fuera, and wish to make a few observations upon it.

These islands, of volcanic origin, are situated, the former 380, and the latter 450 miles from the coast of Chili.

I first visited Juan Fernandez in September 1870, in a small steamer chartered by myself and some friends for the purpose. We remained but three days on the island; and as I saw that good work might be done there, I requested the Chilian government to send me over again in a man-of-war. This was done in 1872, when I stayed in Juan Fernandez twenty days, and, being aided by two good assistants, made as complete investigations as possible into the zoology, botany, and geology of the island. I intend shortly to publish the results of this voyage.

I have never been to Mas-a-fuera; but as I know all the collectors that have been there during the last ten years, I have heard all that they have ascertained on the subject.

On Juan Fernandez six species of land-birds occur, viz.:—

1. Turdus falklandicus.
2. Anæretes fernandezianus, Phil.
3. Eustephanus galeritus, Mol.
4. Eustephanus fernandensis, King.
5. Tinnunculus sparverius.
6. Otus brachyotus.

Turdus falklandicus is common, and offers no difference in plumage; but my collector fancied that its voice was slightly different from that of Chilian individuals.

As regards *A. fernandezianus*, I consider the figure of this species, *l. s. c.* pl. viii. fig. 1, very bad; the crest is too short and badly coloured, while the feathers on the back of the neck are elevated in a very curious and unnatural manner. This species is moderately common, hopping about the twigs like a *Parus*. On two occasions I saw one catch a moth, of the genus *Leucania*, on the wing; but its principal food consists of larvæ and small Diptera, which are very abundant on the island. I found one hanging dead from a spider's web; but how it got there and why it did not escape I cannot say. This species has not been found, and probably does not occur, on Mas-a-fuera.

Eustephanus fernandensis is a very strong bird. It hovers over flowers, then darts away like an arrow to a distance of several hundred yards; I have never seen any other small bird fly so rapidly. It feeds principally from the beautiful purple flowers of the *Citharexylon.* It has a loud shrill cry. I dissected all the specimens that I shot, and found that in all cases the red birds were males, and the green females.

Eustephanus galeritus is by no means common. I shot but some half a dozen specimens, and found that they differed in no way from specimens living on the continent.

Of *Tinnunculus sparverius* all specimens that I have seen from the island are cinnamon-coloured, and must be referred to the *Falco cinnamominus,* Swains., a form also common in Peru, but rare in Chile.

Of *Otus brachyotus* a pair had a nest in the face of an inaccessible cliff, which I discovered by the pellets beneath. I shot the male, which differed in nothing from specimens from Chile.

I believe no other species of land-bird occurs on the island, or I should certainly have seen it. So we have two species peculiar to the island, and four that are widely distributed on the mainland.

I found one sea-bird building, or rather excavating, its nest on the island, viz. *Thalassœca glacialoides.* This Petrel had some hundreds of nests on a slope; and I was rather astonished the first time I passed that way to hear a peculiar, short, growling bark that appeared to proceed from the bowels of the earth. On digging up a burrow, I found at some 6 feet from the surface a pair of birds but no eggs. I dug up some six nests, found a pair of birds in each, but could not find any eggs. All the specimens found were adults; and why they spend the day in their eggless nests I do not know.

I shot a stray specimen of *Spheniscus humboldti*; but I believe this species does not breed there.

The birds of Mas-a-fuera, so far as I know them, are the following:—

1. TURDUS FALKLANDICUS.

2. Oxyurus masafueræ.

3. Cinclodes fuscus.

4. Eustephanus leyboldi, Gould.

5. Buteo erythronotus.

But not having been there I cannot affirm that other species do not occur.

I believe the Buzzard has been attracted by and feeds on the domestic cats with which the island swarms. These cats having been introduced by former settlers, have increased and multiplied amazingly: they have taken to the bush, eaten up all the goats, and now live upon fish and young seals, and in their turn furnish food to the *Buteo*.

VIII.—*Notes on some European and Asiatic Eagles.*

By W. Edwin Brooks, C.E., Dinapore.

My friend the Rev. Dr. Tristam has lent me an African example of *Aquila nævioides*, Cuv., in characteristic tawny plumage, upon which I wish to offer a few remarks.

1. It is totally distinct from the Indian species which has hitherto borne that name. The references to this Indian species in 'The Ibis' are:—July 1868, pp. 351, 352; April 1870, p. 290; July 1870, p. 423; April 1871, p. 245; October 1871, p. 479; and October 1872, pp. 472, 473. It is also described in Mr. Hume's 'Rough Notes,' p. 168, as the young of *Aquila nævia*.

2. *Aquila nævioides* is not a *round-nostrilled* Marsh-Eagle, like the Indian bird and like the other two Marsh-Eagles, *A. nævia* and *A. hastata*, but is a *long-nostrilled* Eagle, with vertical nostrils, like *A. vindhiana*, *A. bifasciata*, and *A. mogilnik*.

3. Its tail is a greyish *barred* one, like that of *A. vindhiana*; and altogether its affinities are with this last-named species; but its mode of coloration is distinct, and very much more handsome in every way. In the tawny stage it has even a more distinct black eyebrow than the Indian species called

by the same name. The tawny colour, both on head and whole body, is peculiarly rich and fine; and out of the numbers of *A. vindhiana* I have obtained in a *pale* tawny stage, not one approached this fine species in coloration. It has its characteristics, and especially the two-coloured feathers about the shoulders and wings, the two colours being fine dark purple-brown and fulvous or tawny. I now see there was some excuse for Mr. Gurney mistaking a mature *A. bifasciata* (*A. orientalis,* Cab.) for a dark *A. nævioides* (*vide* Ibis, 1870, pp. 67, 68). This fine Eagle (*A. nævioides*) is in many respects like *A. vindhiana*; and as that species is subject to light and dark forms, it is probable that the same variation exists in *A. nævioides.* To separate a large dark *A. nævioides* from an undersized dark and mature *A. bifasciata* would be no easy task; but I think no mistake need be made, the characteristics of each being so well defined.

4. The Indian species hitherto called *A. nævioides* agrees well with the plate of *Aquila fulvescens* in Gray and Hardwicke's 'Illustrations of Indian Zoology' (i. pl. 29). So well is the plate executed, that there is no mistaking the species it is intended to represent. Our Indian bird should therefore be henceforth known as *Aquila fulvescens,* Gray; and I am glad to have been able to separate it from *Aquila nævioides vera,* with which it has been confounded.

Judging from the example sent me, I do not see that *Aquila nævioides* is a more robust bird or larger on the whole than our Wokhal (*A. vindhiana*). Its wing is 20 inches only, and the talons are not more powerful. The Indian bird varies excessively in size; and in Mr. Hume's collection there are some magnificent examples which it would be hard to match with African ones of *A. nævioides.*

We have thus three very distinct Eagles subject to light and dark forms:—

1. *A. fulvescens,* Gray. Characters—round nostril and plain black unbarred tail.

2. *A. vindhiana,* Franklin. Characters—vertical long nostril and well-barred grey tail.

3. *A. nævioides,* Cuvier. Characters—vertical long nostril

and barred grey tail. From No. 1 it is easily separated by its structural difference in form of nostril, and by its barred tail; and from No. 2 its rich colours and the strong tendency to particoloured feathers sufficiently distinguish it. This particoloured plumage partakes rather of the character of the spotting upon the mantle of juvenile *Aquila nævia* in the example sent me. The two-coloured feathers, however, are, I understand, not constant.

We have no record of the occurrence of the Indian *A. fulvescens* in Europe; nor have I ever seen an Indian-killed *A. nævioides.* I was much pleased to see the last species and to observe its affinity to *A. vindhiana*; and yet its complete distinctness is most striking.

In our references to *A. nævioides,* Mr. Gurney and I have been playing at cross purposes, he having in view the true *A. nævioides,* while I was thinking of the Indian species so misnamed.

I recently identified *A. orientalis,* Cab. (misnamed *A. clanga* by dealers) with *A. bifasciata,* Gray and Hardwick. To this Mr. Gurney objects, on account of the former's smaller average size and darker colour. His series consisted of about half a dozen of each. I have examined again my series of each most carefully, and with the addition of the measurements of two *A. orientalis* in the Norwich museum. I was able to take three males and three females of each species; and I find the average of the wings to be—*A. orientalis* 21·5, and *A. bifasciata* 21·541, or practically no difference as regards size; and in respect to colour I find as dark a brown in some of my mature *A. bifasciata* as in the very fine old Bosphorus example of *A. orientalis* (*vide* Ibis, 1870, pp. 67, 68). But neither size nor colour is a criterion when Eagles are in question, but characteristics only. They vary excessively in size; and the Indian climate affects their colour to such an extent that I have seen the same species, *Aquila nævia,* nearly black when newly moulted, and a pale sandy bird after a few months' exposure. But it is not always time which produces paleness: the colour of some examples is *fast,* while that of others is the opposite.

The result of my reexamination was my entire conviction of the identity of *Aquila orientalis* and *Aquila bifasciata*. There are several peculiarities connected with the lining of the wing which the younger birds of *Aquila orientalis* and *Aquila bifasciata* have in common. These little coincidences were striking.

Another identification I made was that of *Aquila hastata*, Lesson, with the North German or Pomeranian small spotted Eagle. This point Messrs. Gurney and Dresser are endeavouring to work out. I was, however, quite convinced of the identity of a Danzic-killed mature bird with our *Aquila hastata* in the same plumage.

IX.—*Description of an apparently new Species of Bird belonging to the Family* Trochilidæ, *of the Genus* Eucephala. By D. G. Elliot, F.L.S., F.Z.S., &c.

The genus *Eucephala* is composed of eight or nine species, excluding the one about to be described; and as only three are at all common or usually met with in collections, it is one of the least known or understood among those comprising the great family Trochilidæ. All the species have a resemblance more or less great to each other, their plumage presenting the two colours green and blue in different degrees of brilliancy and extent. With the exception of *Eucephala grayi*, *E. smaragdo-cærulea*, *E. cærulea*, and *E. cyanogenys*, the species are as yet represented only by the types, no second specimens having been procured. The new species I propose to call *Eucephala subcærulea*.

Upper part of head and back dark dull green, rest of back and upper tail-coverts dark green, with a rufous tinge dispersed all over these parts; throat, breast, and abdomen beautiful metallic cærulean blue; flanks shining grass-green. Lower part of abdomen covered by fluffy white feathers. Under tail-coverts metallic green. Wings purple. Tail bluish black. Maxilla black; mandible yellow (in life possibly red) for its entire length, save the tip, which is black. Feet brownish black. Thighs buffy white.

Length $3\frac{1}{8}$ inches, bill $\frac{5}{8}$, wing $2\frac{1}{8}$, tail $1\frac{1}{8}$.

Hab. Brazil?

This species appears to be intermediate between *E. cærulea* and *E. hypocyanea,* as represented by the type in Mr. Gould's collection. From the first of these it can be readily distinguished by the rich blue of the underparts, which is metallic green in *E. cærulea,* the blue being confined in that species to a spot on the chin. To the second of the above-named species it bears a closer affinity, but differs in the dull green upper tail-coverts, the metallic green under tail-coverts, and buffy white thighs, these parts in *E. hypocyanea* being respectively reddish bronze, brownish black with bronzy tips, and brown. Beside these differences, the blue of the under surface is not of the same colour, and also differently dispersed over the plumage.

The species of this genus appear to be as follows:—

1. Eucephala grayi (Delattre & Bourc.).

Hab. Columbia.

Recognizable by its blue head.

2. Eucephala smaragdo-cærulea, Gould.

Hab. Brazil.

Represented by the type in Mr. Gould's collection and by one specimen in that of the late M. E. Verreaux, of Paris.

3. Eucephala chlorocephala (Bourc.).

Hab. Guaranda, in Ecuador, according to Bourcier.

Specimen in Mr. Gould's collection.

4. Eucephala cæruleo-lavata, Gould.

Hab. Brazil.

Type in the collection of Mr. Gould.

5. Eucephala scapulata.

Hab. Cayenne?

Type unique, in Mr. Gould's collection.

6. Eucephala hypocyanea, Gould.

Hab. Interior of Guiana, Rio Negro.

Type in Mr. Gould's collection. A young specimen in Mr.

Sclater's collection was obtained by Mr. Wallace at Cobati, Rio Negro.

7. EUCEPHALA SUBCÆRULEA, Elliot.

Hab. Brazil?

Type in my own collection.

8. EUCEPHALA CÆRULEA.

Hab. Brazil, Guiana, Venezuela, Trinidad, Tobago.

9. EUCEPHALA CYANOGENYS, Prince Max.

Hab. Brazil.

N.B. In Pelzeln's 'Ornithologie Brasiliens' (p. 33) we find mentioned *Hylocharis flavifrons* (Gm.), of which many specimens were obtained by Natterer in Brazil. This species is referred by Gray (Handl. i. p. 148) to *Eucephala*; but Herr von Pelzeln having kindly sent me a specimen for examination, I find that it is *Chlorostilbon prasinus*.

X.—*Description of a new Timaliine Bird from West Africa.*

By Captain G. E. SHELLEY.

A RECENT collection of birds sent from Fantee by Mr. Aubinn contained two specimens of a small bird of the family *Timaliidæ* apparently new to science.

Its peculiar coloration separates it from all the other members of the genera *Alethe* and *Trichostoma* of this part of the world; and it belongs to the small eastern group to which the name *Drymocataphus** has been applied. I therefore propose to call it *Drymocataphus cleaveri*.

I must confess that, structurally, this bird seems to be a very good *Alethe*; but until the much-needed revision of the family *Timaliidæ* has been accomplished, it will be convenient to retain it in the above section, affording, as it does, another remarkable instance of the Malayan element in the avifauna of Western Africa.

DRYMOCATAPHUS CLEAVERI, sp. n.

D. suprà olivascenti-brunneus, supracaudalibus vix rufescente tinctis, remigibus brunneis extus dorsi colore marginatis, secundariis internis dorso concoloribus: caudâ sordidè rufescenti-brunneâ: pileo summo nigro, fasciâ superciliari latâ albâ: facie laterali reliquâ et collo laterali grisescentibus, regione paroticâ saturatiore, genis albicantibus: subtùs albus; corpore laterali toto cum crisso et subcaudalibus rufescenti-fulvis: subalaribus albidis fulvo lavatis: rostro corneo, mandibulâ flavicante, pedibus flavicantibus.

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* A genus founded by Blyth in 1849 (J. A. S. B. xviii. pt. 2, p. 815). Type *Brachypteryx nigro-capitata*, Eyton. *Qy.* derivation?

Long. tot. 5·7, culm. 0·65, al. 2·7, caud. 2, tars. 1.

Forehead, crown, and nape black; a broad white eyebrow extending from the base of the beak to above the ear-coverts, shading into grey behind the latter; under the eye and the ear-coverts dusky black, cheeks whitish; upper surface of body olive-brown, with a slight rufescent shade a little more distinct on the upper tail-coverts; quills dark brown, broadly margined with the same colour as the back; the inner secondaries uniform with the latter; tail dark rufous brown; chin, throat, and centre of the body white; sides and under tail-coverts rufous buff; under wing-coverts whitish washed with rufous buff.

I name this bird after Mr. Cleaver, in acknowledgment of his courtesy to me during my recent visit to Cape-Coast Castle.

XI.—*Note on* Dryotriorchis, *a new Genus of Harrier Eagles from West Africa.*

By Captain G. E. Shelley.

I received in one of my last consignments from the interior of Fantee an adult specimen of the *Astur spectabilis* of Schlegel, which seems to indicate to me that we have hitherto been mistaken in referring this bird to the Goshawks, and that it is in fact an Aquiline form, with tarsi reticulated both before and behind. Mr. Sharpe has examined the bird with me, and agrees that it cannot be placed in any existing genus. I therefore propose to make a new one for its reception as follows:—

Dryotriorchis, gen. nov.[*]

Type *D. spectabilis* (Schl.): *Astur spectabilis*, Schl. Ned. Tijdschr. Dierk. i. p. 13, pl. 6.

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[*] δρῦς, *quercus*, et τριόρχης, *accipiter*.

This new genus is allied to *Circaëtus*, from which it differs in its short wing and long tail. The latter is nearly as long as the wing itself, the difference between them being less than the length of the tarsus. It differs from *Herpetotheres*, in which Prof. Schlegel was inclined to place it, in its oval nostrils, and from *Spilornis* in its lanceolate crest as well as the proportions of the wing and tail.

XII.—*Letters, Announcements, &c.*

The following letters, addressed "To the Editor of 'The Ibis,'" have been received:—

Chislehurst, October 1873.

Sir,—In the year 1845 Mr. Blyth (J. A. S. B. xiv. p. 589) described a rare and beautiful species of the genus *Troglodytes*, Vieillot, from Darjeeling, and named it *T. punctatus*. As this title had been previously bestowed in 1823 by C. L. Brehm on the common Wren of Europe (Naturgesch. europ. Vögel. i. p. 318), I propose the name of *T. formosus* for the Darjeeling species.

I have the honour to remain,
Yours,
Walden.

Sir,—In Capt. J. Hayes Lloyd's very interesting paper on the birds of Kattiawar, published in the October number of 'The Ibis' (p. 399), he speaks of *Palæornis rosa, Buchanga cærulescens, Copsychus saularis, Cyornis jerdoni*[*], *Grauculus macei, Zosterops palpebrosus*, and, if I understand rightly, *Corvus levaillanti* and *Crocopus phœnicopterus*, as "Malabar forms." As I have myself used the term "Malabar forms" or "Malabar fauna" in speaking of birds, will you pardon my remarking that I have employed it in a different sense from Captain Hayes Lloyd. I should not have called any of the birds above mentioned a Malabar form; nor is there a single species in the whole list of Kattiawar birds to which I should apply the term.

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[*] I think *tickelliæ* is the name which has priority for this species, having been given by Blyth in 1843 (J. A. S. B. xii. pt. 2, p. 941), whereas *jerdoni* of Gray was not published until 1869 (Hand-l. i. p. 325).

Every one of the species above mentioned has a wide range in India; to the best of my belief all of them occur throughout a large portion of the peninsula wherever there is forest; and some of them, e. g. *Copsychus saularis* and *Crocopus phœnicopterus,* are common in gardens and groves of trees even away from the wilder jungles. The birds to which I think the expression "Malabar forms" should be restricted are those characteristic of the hills and forests near the Malabar coast. A few of these are met with on some of the higher hill-ranges of Southern and Central India, and in the great forest-country lying west of Orissa and the northern Circars, but not elsewhere in the Indian peninsula. Thus the peculiarly Malabar form of *Palæornis* is not *P. rosa,* but *P. columboides*; and the following are some of the birds most characteristic of the Malabar fauna:—*Scops malabaricus, Harpactes fasciatus, Chrysophlegma chlorophanes, Micropternus gularis* and two or three other Woodpeckers, *Megalæma viridis, Xantholæma malabarica, Leptocoma minima, Tephrodornis sylvicola, Pericrocotus flammeus, Ochromela nigrorufa, Myiophonus horsfieldii, Hypsipetes ganeesa, Phyllornis malabarica,* peculiar species of *Alcippe, Pomatorhinus, Garrulax,* and *Trochalopterum, Dendrocitta leucogastra,* &c. &c. It is species such as these, together with such forms as *Presbytes johnii* and *P. jubatus, Platacanthomys,* and peculiar species of mungoose and squirrels amongst mammals, *Uropeltidæ* and a host of other marked types amongst Reptilia, peculiar genera of the *Cyclophoridæ* amongst land-shells, and such forms as *Tanalia stomatodon* among freshwater mollusks, which give a marked character to the Malabar province, show the close affinity of its fauna to that of Ceylon, and a more distant but still well-marked alliance with that of Malayana, and distinguish it at once from that which is found in the remainder of the Indian peninsula.

W. T. BLANFORD.

October 1873.

Sir,—Some months since a letter appeared in 'The Ibis' from Captain F. W. Hutton, calling in question my conclusions as to the distinctness of *Hieracidea novæ-zealandiæ* and *H. brunnea*. As there was, in point of fact, nothing to answer, and as the circumstance of my having accidentally, as it seems, given the symbol ♂ upside down on some of the labels in my collection appeared to me a very unworthy quibble for a naturalist, I did not take any notice of that letter; but wrote instead to friends in the colony, urging them to help us in the inquiry by collecting larger series of carefully sexed specimens, and by making further and closer observations on the habits of the species.

The last number, however, of 'The Ibis' contains two communications from Capt. Hutton, upon which, with your permission, I will offer a few observations.

In the first place, as to *Tribonyx mortieri*. If the facts as communicated by Mr. Purdie are true, viz. that the bird brought home by Mr. Bills was obtained at Hobart Town and kept for a time in the Otago Acclimatization Gardens—then, in common with every lover of truth, I am much obliged to Captain Hutton for exposing a wilful deception.

The bird in question was purchased from Mr. Bills by the Zoological Society *as a New-Zealand bird*; and I received a letter from Dr. Sclater apprising me of the fact and kindly placing it at my service. Mr. Bills, whom I saw personally on the subject, declared that it had been obtained on the shores of Lake Waihora, in the interior of the Otago province, and gave me a circumstantial account of its capture! As there was nothing improbable in the occurrence of such a form in New Zealand, or rather (as I have pointed out in my Introduction, p. xviii) as such a form might naturally be looked for there, I did not of course discredit the story, and was only too glad to accept Dr. Sclater's offer to make use of the Society's woodcut in my notice of the species.

Secondly as regards *Rallus modestus*, Captain Hutton combats my judgment in referring his type specimen to *Rallus dieffenbachii*, juv. ('Birds of New Zealand,' p. 180), and enters upon a long argument to prove that not only are they distinct species, but that they belong to different subgenera. Inasmuch, however, as there is a fatal mistake in Captain Hutton's premises, his conclusions go for nothing.

No two species of Rail, I should say, are more easily distinguishable than *Rallus philippensis* and *R. dieffenbachii.* I have rejected subgeneric distinctions altogether in my work, or I would willingly have referred these forms to different subgenera, as was originally proposed by the late Mr. G. R. Gray. No naturalist who had actually seen the birds would attempt to unite them as a species.

The fallacy of Captain Hutton's case is, that he labours to disprove a proposition of his own making; for no one ever asserted what he assumes—that *Rallus philippensis* and *Rallus dieffenbachii* are the same or very nearly allied species.

Captain Hutton affects astonishment at my mention of "other competent ornithologists" without giving their names. I presume that an author who undertakes to write the history of the birds of any country is at liberty to form his own judgment as to who are "competent" authorities in matters of reference, and to fortify himself with their opinions, especially when he accepts himself the entire responsibility of the conclusions arrived at. It is neither usual nor necessary in such cases to "give the names." But as Captain Hutton thinks he has discovered "a very serious error," I may mention that both Mr. Salvin and Mr. Sharpe, who compared with me the type of *Rallus modestus* with the specimen of *R. dieffenbachii* in the British Museum, pronounced the one, in their opinion, the young of the other. It would be superfluous to add other names; but all to whom Captain Hutton's bird was shown took it to be an immature specimen.

I am, &c.,
WALTER L. BULLER.

November 11, 1873.

Northrepps, Norwich,
October 10, 1873.

SIR,—In my edition of the late Mr. Andersson's 'Notes on the Birds of Damaraland' I have included as a Damara species

Camaroptera olivacea, Sund.; but I am indebted to my friend the Rev. Canon Tristram for calling my attention to the fact that the Damara bird appears to be referable to the more northern species, *Camaroptera brevicaudata* (Rüpp.), and I therefore avail myself of the pages of 'The Ibis' to correct this error.

It seems clear to me that *C. olivacea* and *C. brevicaudata* are really distinct species, although this has been doubted by some eminent ornithologists, and equally clear that the Damara bird is properly referable to *C. brevicaudata.*

Mr. Tristram possesses two specimens, a male and female, both obtained by Mr. Andersson at Objimbinque, Damaraland, on the respective dates of 7th July and 29th June, 1866.

These specimens are almost identical with each other, but they differ in the following details from a female specimen of *C. olivacea* obtained by Mr. Ayres in Natal:—

In the Damara birds the whole of the upper surface of the wings is of a golden green, except the quill-feathers, which are only edged with that colour on their anterior margins.

The upper surface of the head and the whole of the back and tail are dark grey.

The sides of the head are grey tinged with fawn-colour in the male; the same tint of fawn pervades the throat, flanks, and tibial feathers in both sexes.

The chin and central parts of the abdomen are white; and the under wing-coverts are tinged with bright saffron-yellow.

The specimen of *Camaroptera olivacea* from Natal differs from the above in the following particulars:—

There is no grey on any of the upper parts except the forehead; the whole remainder of the upper surface, including the wings and tail, is of a dark olive-green, with a tinge of yellow; but this tinge is much less bright and marked than that on the wings of the preceding species, and the yellow on the under wing-coverts is much paler and fainter.

There is no tinge of fawn on any part of the plumage of the Natal bird; and all those parts are dark grey which in the Damara bird are tinged with fawn.

Lastly the Natal bird is smaller than the Damara bird of the same sex, as will appear by the following measurements :—

	Wing from carpal joint.		Tail.		Tarsus.	Middle toe s. u.
	in.	lin.	in.	lin.	lin.	lin.
C. brevicaudata ♂, Damaraland	2	4	1	11	10	7
C. brevicaudata ♀, Damaraland	2	1	1	9	10	7
C. olivacea ♀, Natal	1	11	1	5	10	5

I am yours, &c.,
J. H. Gurney.

Dunipace House, Falkirk,
October 2nd, 1873.

Sir.—I have lately received the eggs of a few species of New-Zealand birds collected by my friend Mr. T. R. Cooke in the province of Canterbury. Possibly the following notes from the pen of the collector may prove of interest to you. You may rely on their accuracy.

Casarca variegata. Paradise Duck. Maori name *Putangitangi.*

Three eggs. Nest with eight eggs, in schist rock on upper Waiko, nearly inaccessible in a horizontal fissure some 50 feet from the ground. Nest lined with down. Thirty miles inland. December 13th, 1872.

Porphyrio melanotus. Swamp-Hen. *Pakeko.*

Five eggs. Nest in rushes or sedge or tussac in or very near water, like Waterhen's. Bird lays five or six eggs. December 1872.

Hæmatopus longirostris. Pied Oyster-catcher. *Torea.*

Two eggs. Nest on bare shingle of Otaio river-bed, hard to find. A smaller (?) black variety* breeds, I fancy, on sea-beach. Skin of this bird also sent.

Himantopus novæ-zealandiæ. Pied Stilt. *Poaka.*

Six eggs. Nest on shingle of Otaio river-bed. Easy to find. Birds bold and noisy. Nest of drift-weed, fairly built.

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* *Hæmatopus unicolor* (Wagler).

A black variety, which I believe to be the young of this species, shall be sent next year. Four eggs in nest. Three eggs on October 14th, 1872*.

ANARHYNCHUS FRONTALIS. Crookbill Plover†.

Two eggs. Nest on sand among shingle in Otaio river-bed; very hard to find though birds were bold. Eggs almost covered with lichens chopped small, and placed point down. Nest with three eggs on October 20th, 1872.

OCYDROMUS AUSTRALIS. Wood or Maori Hen. *Weka.*

One egg. Nests under snow-grass tussacs and common tussac; dogs find them. Found about seven or eight nests on Upper Waiko on December 13, 1872, all with very hard-set eggs; from three to four in nests. The one sent was addled. Nest of grass.

STERNA ANTARCTICA. Common Tern.

Two eggs. Nest with two eggs on Otaio river-bed shingle, October 20th, 1872.

ANTHORNIS MELANURA. Bell-bird or Mocking bird. *Koruicoko* or *Moko-moko.*

Three eggs. Nest of grass and twigs in fork of broad-leaf tree on Otaio river. Birds very bold, but nest well concealed. Nest with four eggs, January 26th, 1873.

I am yours, &c.,
JOHN A. HARVIE BROWN.

West House, Aldwick, Bognor,
October 30th, 1873.

SIR,—On looking over my paper on the birds of Kattiawar, in the last number of 'The Ibis,' I observe two errors which seem sufficiently important to require correction.

At page 405, *Hirundo javanica* is given as a synonym of *Hirundo rustica*, and is said to be common! In reality the word "common" refers to *H. rustica,* and should have been inserted *above Hirundo javanica,* which is the heading of the succeeding paragraph.

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* These may prove to be eggs of *H. leucocephalus* (Gould). The Maori name given by Buller (*vide* 'Birds of New Zealand') is "Kaki" for *H. novæ-zealandiæ*, and "Tutumata" for *H. leucocephalus.*

† Wry-billed Plover of Buller.

At page 409, under the head of *Cyornis jerdoni, sanguineus* is given as a synonym. This is a misprint for *banyumas.*

Yours, &c.,
J. HAYES LLOYD.

Note on the correct generic name of Podiceps minor.

In Mr. G. R. Gray's 'Catalogue of British Birds' (1863) and elsewhere *Sylbeocyclus* is given as the first generic term applicable to *Podiceps minor.* The invention of the name is assigned (p. 213) to "Bonaparte, 1832," but no reference is added.

Upon looking into the matter I find that this curious name* appears to have been first used by Bonaparte in 1834 in the supplementary remarks to his 'Saggio di una distribuzione metodica degli Animali Vertebrati,' p. 144. But the type given is *P. carolinensis;* so that *Sylbeocyclus* is merely a synonym of *Podilymbus,* proposed by Lesson for the same type in the same year.

In Gray's first 'List of Genera' (1840) *P. minor* is given as the type of *Sylbeocyclus.* In the second edition of the same work (1841) the name is correctly placed as a synonym of *Podilymbus.* In the 'Catalogue of British Birds,' as above mentioned, and in the 'Hand-list,' the former course is again adopted. But in the 'Hand-list,' under *Podilymbus* (iii. p. 95), is added "*Sylbeocyclus,* Bp. 1856, nec 1832." This *should* perhaps be "Bp. 1834 nec 1838;" for in his 'Comparative List,' published in the latter year, Bonaparte uses *Sylbeocyclus* for both *P. minor* and *P. carolinensis.* But it is clear that he knew that this was an error; for in his 'Catalogo Metodico degli Uccelli Europei,' published in 1842 (p. 83), Bonaparte reassigns *P. minor* to *Podiceps,* and adds "minimè *Sylbeocyclus* err. typ."

It is therefore certain that *Sylbeocyclus*=*Podilymbus,* and cannot be used for *P. minor,* for which the proper generic appellation appears to be *Tachybaptus* of Reichenbach.

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* Unde derivatur?

P. L. Sclater.

News of Mr. Salvin.

Our Editor, at the date of the last communication with which he has favoured his unworthy substitute (October 12), was at Antigua, Guatemala. He writes as follows:—

"I got a prize the other day from the Volcan de Fuego, in the shape of two pairs of that beautiful little Pigeon *Peristera mondetoura*! As the species occurs in Mexico and Costa Rica it was to be expected in Guatemala; but where to look for it I had no notion. It proves to be a highland species, as these birds were shot near Calderas, on the Volcan de Fuego, between 7000 and 8000 feet above the sea. The common *P. cinerea* is found in the lowlands and in Guatemala on both sides of the mountains. I am not sure that these Central-American birds will not prove to be slightly different from the more northern race. The deep vinous colouring of the underparts in the former is confined to the pectoral region, whereas in the latter it appears to spread more over the abdomen. But I hardly know enough of the southern bird to feel very confident on the subject. There is a specimen in the gallery of the British Museum (said to be from Columbia) which has the underparts more overspread with vinous than a Mexican specimen (Jalapa) which we have. The Columbian bird agrees with Bonaparte's plate in the 'Icon. des Pig.' The specimens I now have are like the Mexican birds. Anyhow the difference is slight; and I should think less of it did not the bird prove an upland species. The range is curious; I can only compare it with that of *Bolborhynchus lineolatus*.

"Another new bird to Guatemala I obtained yesterday, in *Vireo huttoni,* found in Mexico, but never before here.

"Yesterday, too, brought me a specimen of our *Lophostrix stricklandi*; an Indian shot it near Escuintla, *i. e.* in hot country. From the highlands I have *Psaltriparus melanotis* at last, and quite a number of *Cardellina rubifrons*. Of all the above I have skins; but of skeletons I have quite a number, and some useful ones among them. Besides birds we have lately got together a large collection of dried plants; so that we have been very busy; nor have we much chance of being otherwise."

Mr. Jelski's Collections in Western Peru.

Mr. Constantin Jelski, a correspondent of the Warsaw Museum, has lately made some remarkable discoveries in Western Peru, in the district round Tarma, east of Lima. Some of his novelties have been submitted to Dr. Cabanis, and are described in the 'Journ. f. Orn.' (1873, pts. 1 & 3); amongst them is a very singular new form of Cœrebidæ (*Xenodacnis parina*). M. Taczanowski has lately brought to London a number of specimens of M. Jelski's, which we have had the pleasure of examining. Amongst them are four or five Humming-birds new to science, and a single skin of a most interesting new Cotingine form quite distinct from any thing previously known. It is remarkable that a district already worked by Tschudi and other collectors should yield such results. P. L. Sclater.

The Yellow-legged Herring-Gull.

In the last number of the 'Birds of Europe' Mr. Dresser figures the Yellow-legged Herring-Gull of the Mediterranean and Western Asia (*Larus leucophæus*). But this bird does not, as Mr. E. C. Taylor supposes, give place to *Larus fuscus* at Gibraltar. *Larus leucophæus* is certainly also found *outside* the Straits, as in 1867 the Zoological Society received a specimen from Mogador*. This was determined by the writer as *Larus fuscescens*, being believed to be the *Clupeilarus fuscescens* of Bp. (Consp. ii. p. 220). Since then two other living specimens have been presented to the Society by Mr. F. Bond. All three are now alive in the Regent's Park.

P. L. Sclater.

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* See P. Z. S. 1867, p. 315, et Rev. Cat. Vert. p. 316.

THE IBIS.

THIRD SERIES.

No. XIV.—APRIL 1874.

XIII.—*Additional List of and Notes on Birds obtained in the Republic of Trans-Vaal.* By Thomas Ayres. (Communicated by John Henry Gurney.)

(Plate III.)

[Continued from 'The Ibis,' 1873, p. 286*.]

187a. Petrochelidon spilodera (Sund.) (=*Hirundo alfredi,* Hart. Ibis, 1868, p. 152). Prince Alfred's Swallow.

Two colonies of these birds now visit us regularly at Potchefstroom every year, appearing in August. One takes possession of the Dutch church, building under the eaves; this colony consists of about twenty pairs. The other has taken up its quarters under the eaves of the Dopper, or dissenting Dutch church, at the other end of the town, and, I think, is rather more numerous than the first.

The greatest enemies they have are the small boys, who are continually pelting their nests down, and next to them, the

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* [The specimen included in Mr. Ayres's list, published in 'The Ibis' for 1871, p. 147, under the name of *Drymœca affinis*, proves to have been wrongly identified by me, and to be referable to *D. flavicans* (No. 17). The present list, in consequence of this error, commences with No. 187a. —J. H. G.]

White-rumped Swifts, which are very numerous, and are always trying to turn them out of their nests, being too lazy to build for themselves.

188. Cotyle paludicola (Vieill.). South-African Sand-Martin.

This species is found here all the year round.

[*Conf.* Ibis, 1868, p. 464.—J. H. G.]

189. Coracias garrula, Linn. European Roller.

The specimen sent is evidently in immature plumage. I killed it amongst some bushes about three miles from Potchefstroom, in the month of December.

[From the condition of the plumage I should suppose this specimen to be about six months old.—J. H. G.]

190. Merops nubicoides, Des Murs. Carmine-throated Bee-eater.

The specimen sent was brought from Pindais River, about 130 miles to the north of Potchefstroom, by Mr. Button, who states that there were many of them there together.

191. Calamoherpe babæcula (Vieill.) (=*C. gracilirostris*, Hartl.: *conf.* Ibis, 1873, p. 259). Caqueteuse Reed-warbler.

The specimen sent was shot amongst the reeds by the river.

192. Myrmecocichla formicivora (Vieill.). Southern Ant-eating Wheatear.

The specimen sent was shot within a mile of Potchefstroom.

[*Conf.* Ibis, 1868, p. 44.—J. H. G.]

193. Fiscus collaris (Linn.). Fiskal Shrike.

The specimen sent was shot in the town of Potchefstroom.

194. Euplectes xanthomelas (Rüppell). Northern Black-and-yellow Bishop-bird.

The specimen sent (a male in breeding-dress) is the only one I have seen in Trans-Vaal. It was shot by a young Dutchman, and brought to me in the flesh.

(*Cf.* Ibis, 1868, p. 51.—J. H. G.]

195. AMADINA ERYTHROCEPHALA (Linn.). Red-headed Finch.

These pretty little Sparrows are exceedingly scarce here: but a single bird or a pair very occasionally appear. The pair now sent were shot in the town of Potchefstroom.

196. VIDUA PRINCIPALIS (Linn.). Dominican Widow bird.

The specimen sent was also shot in the town of Potchefstroom.

197. ALAUDA CONIROSTRIS, Sund. Pink-billed Lark. (Plate III. fig. 1.)

The specimen sent (a female) was shot on the flats about two miles from Potchefstroom.

198. MEGALOPHONUS ERYTHROCHLAMYS (Strick.). (Plate III. fig. 2.)

I shot the specimen sent (a female) amongst some rocks and stones in a range of low hills some three or four miles from Potchefstroom; it had a peculiar knack of hiding itself by creeping over and about the bits of rock.

[This species and the preceding one, having, so far as I know, never been figured; a plate of the specimens obtained by Mr. Ayres is here given.

A specimen of *M. erythrochlamys* which is preserved in the late Mr. Strickland's collection at the Cambridge museum, is considerably paler in its tints than Mr. Ayres's Trans-Vaal specimen; but this is probably due in part to the latter having been killed shortly after moulting, and whilst its newly acquired dress was still unfaded.—J. H. G.]

199. CHRYSOCOCCYX CUPREUS (Bodd.). Didric Cuckoo.

The two specimens sent were shot in the town of Potchefstroom.

[*Conf.* Ibis, 1868, pp. 163 & 467.—J.H.G.]

200. COTURNIX DACTYLISONANS, Bodd. European Quail.

I think this species is pretty generally distributed; they are tolerably plentiful amongst the grass along the banks of the river about five miles from Potchefstroom.

201. Œdicnemus capensis, Licht. Spotted Thicknee.

The specimen sent was shot within three miles of the town of Potchefstroom.

202. Sarciophorus albiceps, Gould. White-crowned Wattled Plover (Fraser's 'Zoologia Typica,' pl. 64).

This is the only bird of the kind I have ever met with; I shot it in a neighbour's garden; it is a very rare visitant certainly.

Total length 12¾ inches, bill 1¼, tarsus 3¼, wing 8, tail 4.

Bill yellow at the base, black at the tip; wattles at the base of the bill yellow; iris pearly grey; tarsi and feet pale yellowish; wings heavily spurred, first and second quills equal and longest; heel wanting.

Under plumage, rump, basal half of tail and wings, front, crown, chin, and collar between the back and the neck pure white; first three primaries and tail much tipped with glossy black; wing-coverts glossy black; scapulars, tertials, and back pale umber-brown; neck and head ash-colour.

[This specimen, together with several others, was unfortunately stolen *in transitu* from a box sent to me by Mr. Ayres; but the description which he has given of it seems to me to prove that Mr. Ayres's identification of the bird was correct.—J. H. G.]

203. Ciconia alba, Linn. White Stork.

This species is a rare visitant; and though great swarms of locusts visit us every year, the Storks do not seem to follow them hither. The specimen sent was a solitary wanderer stalking about on the open flats a mile out of Potchefstroom.

204. Herodia garzetta (Linn.). European Lesser Egret.

This Egret is pretty common in this district, as is the case with the two succeeding species also.

[The specimen sent was in winter plumage, with the bill yellow —J. H. G.]

205. Nycticorax ægyptius (Hasselq.). European Night-Heron.

206. Platalea tenuirostris (Temm.). Slender-billed Spoonbill.

207. Ibis æthiopica (Lath.). Sacred Ibis.

These birds are plentiful, frequenting the swamps in flocks of fifty or sixty together; but I am not aware that they breed here.

208. Limnocorax niger (Gmel.). Black Crake.

This species haunts the reeds and rushes on the banks of the Movi river.

209. Porphyrio smaragnotus, Temm. Green-backed Porphyrio.

These handsome birds are common in some of the swamps about Potchefstroom, but generally frequent rather deep parts.

210. Fulica cristata, Gmel. Rufous-knobbed Coot.

This species is common in Trans-Vaal.

[*Conf.* Ibis, 1868, p. 470.—J. H. G.]

211. Anas sparsa, Smith. White-spotted Duck.

This species is found on the Movi river, but is not plentiful.

212. Anas xanthorhyncha, Forst. Yellow-billed Duck.

This is one of the commonest Ducks in this district.

213. Thalassornis leuconota, Smith. Yellow-throated Diving Duck.

This species is very scarce here; the specimen sent was shot within a mile of Potchefstroom.

[The following remarks refer to species which have been already recorded by Mr. Ayres as occurring in Trans-Vaal.—J. H. G.]

160. Circaëtus pectoralis, Smith. Black-breasted Harrier Eagle.

This Eagle makes its appearance at Potchefstroom every winter, though in no great numbers. The specimen sent (an adult female) I shot in the town in August from the top of a willow tree; its stomach contained lizards and also a large toad, swallowed whole.

164. Hirundo albigularis, Strick. Southern White-throated Swallow.

A pair of these Swallows fixed a nest on the side of a beam in a deserted building in the town, from which I took three eggs; the nest was cup-shaped, or rather like a cup cut perpendicularly down the centre and stuck against the beam; it was composed of mud and was open at the top, and lined with feathers placed loosely in it.

The eggs (which I took in December) were much incubated, they measured 9½ lines in length by 7 in breadth, and were white spotted more or less throughout, but especially at the obtuse end, with reddish brown of different shades.

12. Hirundo semirufa, Sund. Rufous-breasted Swallow.

One of the specimens sent had mud in its mouth when shot, which looked very much as if it were breeding somewhere in the neighbourhood. I killed it near the river, about two miles from Potchefstroom.

166. Cotyle cincta (Bodd.). Brown-collared Martin.

This species is plentiful here during the summer months.

83. Cisticola cursitans (Frankl.). Fantail Cisticola.

[I have mentioned (Ibis, 1873, p. 257) my view as to the identity of this species with *C. terrestris* and *C. ayresii*, and now append the measurements of four additional specimens, sent to me by Mr. Ayres from Trans-Vaal.—J. H. G.]

	Wing.		Tarsus.	Middle toe without claw.
	inches.	lines.	lines.	lines.
♂	1	11½	9	5½
♂	1	10	9	5½
♀	2	1	9½	6
♀	1	9	8½	5½

146. Balearica regulorum (Licht.). Southern Crowned Crane.

The specimen sent is the cock bird of the pair that bred in a swamp about twenty-four miles from Potchefstroom, and from whose nest my friend Mr. Bodenstein obtained for me two eggs in December 1871.

The hen bird this season found another mate and again bred in the same spot, laying three eggs, which Mr. Bodenstein has brought me, and which are precisely similar to those previously obtained.

[*Conf. anteà,* p. 286.—J. H. G.]

186. RALLUS CÆRULESCENS, Gmel. Caffre Rail.

This Rail is common in Trans-Vaal.

187. ORTYGOMETRA PYGMÆA, Naum. Baillon's Crake.

One occasionally puts up this Crake whilst Snipe-shooting; but it is not common.

152. GALLINULA CHLOROPUS, Linn. European Waterhen.

This species frequents the reedy banks of the Movi river, but is not plentiful.

XIV.—*Notes on the Avifauna of the Desert of Sinai and of the Holy Land.* Part I. By ALEXANDER W. M. CLARK KENNEDY, F.R.G.S., F.L.S., F.Z.S., &c., Coldstream Guards.

I FEEL that some apology is due to the readers of 'The Ibis' for troubling them with the following rough notes,—first, because I fear there will be little value in them, as I was unfortunately obliged to hurry through my journey owing to the lateness of the season, and therefore had but small time to make observations on the ornithology of the countries through which I passed; and secondly, because the subject has been treated in an exhaustive manner in these pages by far abler pens than mine, and by far more accurate observers and better ornithologists. Among these I need hardly refer to the Rev. H. B. Tristram and Mr. C. W. Wyatt. My sole reason for offering them to my brother ornithologists is from my conviction that there is always some value to be set on original observations; and I can only add that these notes were made upon the spot, so that they may be relied upon as authentic.

Leaving London on the last day of the year 1869, in companionship with Mr. Trench Gascoigne, of the Royal Horse Guards (Blues), I arrived after a very rough passage through the Bay of Biscay, with a lovely run over the blue Mediterranean, at Alexandria. Having "done" all the lions of that city, and enjoyed some excellent Snipe-shooting in its vicinity, we went on to Cairo, and remaining there for a couple of weeks, ascended the Nile into Nubia, and we spent nearly two months in collecting specimens of the birds we met with by the banks of that venerable river. So much, however, has been written in 'The Ibis' upon Egyptian ornithology already, and the subject has been so well treated by my friend Captain G. E. Shelley in his lately published work on the birds of that country, that I do not intend to refer to this portion of my travels. But I will give a brief outline of our proceedings after the 17th March, 1870. On that day we left Cairo for Ismaïlia, intending to see the Suez Canal, just then opened, while our dragoman and servants and our camels, with the *impedimenta* for our trip through the Sinaitic Desert, went on ahead to Suez, where the Bedouin Arabs of the Tôr tribe were to furnish our escort and be all ready to start on our arrival at that place. It was our intention to leave Cairo upon the 16th of March; but on arriving at the railway station, at 9.30 A.M., we were disappointed to find that there was no chance of getting to Ismaïlia that day, as, owing to the strong south winds of the previous day, the line of rails for some six miles to the westward of that place had been completely buried by drifting sand, which in some spots was many feet in depth. Thus situated we returned to our hotel, and took a long donkey-ride into the desert to the east of Cairo, and beyond the famed petrified forest, where I found the largest flock I ever saw of the prettily plumaged *Erythrospiza githaginea*, and obtained a specimen of the Bifasciated Lark (*Certhilauda desertorum*), which cannot be said to be often met with. In a deserted burial-ground, near the tombs of the Cailliphs, we found, on our return, several pairs of the Rock-Thrush (*Monticola saxatilis*). In another Arab cemetery, on the outskirts of the city, I saw *Monticola cyanus* in some numbers. I entirely agree with Captain Shelley ('Birds of Egypt,' p. 71) that this is a far commoner species than *M. saxatilis*: but I have never seen both species so close together; for the two burial-grounds were but a few hundred yards from each other. I will not dwell on our journey to Ismaïlia; but seldom have I seen so many Ducks of all kinds (but principally *Fuligula ferina, F. cristata,* and *Rhynchaspis clypeata*) as we observed from the railway-carriage, congregated on some large pieces of water a little way beyond Zagazig, while the common Mallard and *Anas crecca* were there in vast flocks, and seemed little disturbed by the passing train. At Ismaïlia, and on the canal itself near that place, and also in the neighbourhood of the town generally, I was much struck with the entire absence of any animal life; for, with the exception of small sand-lizards and a Kite, we saw nothing whatever, excepting one bird, which simply swarmed on the banks of the "sweet-water canal," namely *Motacilla alba.* Probably they were about to migrate; for this bird, though very common throughout the country in winter, lessens its numbers greatly towards spring. On the following day we went up the Suez Canal in a small steamer; and about halfway to Port Said a heavy hailstorm came on; and as flock after flock of wild fowl scudded away over head as the storm drove them from their snug quarters on Lake Menzaleh, we could almost fancy ourselves back in old England on a raw winter's day; for it became very cold, and it was only the occasional companies of Pelicans or Flamingos that passed by our boat, that made us remember that we were sojourning in a foreign land.

On the 19th I found the harbour of Port Said swarming with the Gulls and Terns. The most noticeable were *Sterna caspia, S. cantiaca* in very small numbers, *S. media,* one example of *S. bergii, Larus fuscus, L. leucophæus,* and *L. ridibundus.* I saw several pairs of that splendid Gull, *Larus ichthyaëtus,* and killed one very good specimen. One of the Caspian Terns that I shot, soon after daylight, from the breakwater, very nearly cost me dear. It fell into the sea, but only about twenty yards from land; and being a good specimen, I, anxious to secure it, and having no dog or boat, divested myself quickly of my clothes, and was about to clamber down the stone piers previously to plunging in for my bird, when a big black fin appeared for a moment above the surface close to the Tern, and in another second *S. caspia* found his last resting-place in the capacious belly of a large shark!

Our camels were all ready for us on the 21st, when we got to Suez; but a strong Khamseer wind blew all day, which prevented our starting for the "wells of Moses" until the following day. I noticed a small number of *Phalacrocorax carbo* in Suez harbour, but saw few birds excepting the commoner Gulls, Terns, and Hawks. At half-past ten the next morning we found ourselves in Asia, having quitted Africa by crossing the Red Sea near the spot where the children of Israel went over. Mounting our camels, we set out on the first stage of our desert journey; and being now truly in the peninsula of Sinai, my notes on the birds observed by us commence.

Our route, after spending a month in the desert, and staying some days at Mount Sinai, was *viâ* Nŭkhl, to Jerusalem; then, having visited the Dead Sea and valley of the Jordan, we rode throughout the whole length of the Holy Land to Damascus, thence to Beyrout, which we left on the 10th of May for Constantinople. Thus the birds in the following list were met with between March 22nd and May 10th, 1870.

1. VULTUR MONACHUS (Linn.). Black Vulture.

I met with this species very sparingly in the desert, and found it most abundant close to the convent of Sinai. I also saw a few of them in Southern Palestine; but I should call them rare in that country.

2. GYPS FULVUS (Gm.). Griffon Vulture.

When resting upon the summit of Jĕbel Mûsa, where God is said to have given the tables of the law to Moses, we noticed one pair of the Griffon soaring far above in the blue sky, but could distinguish them well with an opera-glass. This was on March 30th, and was the only time I met with this species, never seeing it in Palestine.

3. NEOPHRON PERCNOPTERUS (L.). Egyptian Vulture.

One of the commonest of birds in the Sinaitic desert, and almost as numerous in some places here as in Egypt itself. Around the convent of Sinai there were a great many of them;

and we met it far north in Palestine; but it seemed to become scarcer as we worked northwards from Jerusalem. Where-ever we pitched our tents in the desert, whether on a sandy plain or almost hidden among those towering mountains, an assemblage of Egyptian Vultures were certain to be the very first living things we saw in the early morning, and the last birds to take leave of us at night. They would hover around us all day, but generally took care to keep out of danger. I verily believe that several individual birds followed us all the way from the outskirts of Suez until we arrived at the borders of Hebron, a space of nearly one month. They appeared to eat any thing, from a defunct camel to the leg-bone of a chicken; and they seemed to delight in depredations among the burial-grounds of the Arabs. A child was buried on April 7th at a little village called Nŭkhl, in the very centre of the desert, and halfway from Jerusalem to the convent at Sinai; and early the next morning I happened to leave my tent, which was pitched close to the grave-yard, if such it could be called, and the sight that met my eyes was truly sickening. The newly-buried corpse was torn up and exposed to view, and a whole host of Eagles, Buzzards, and Ravens were enjoying this horrible feast; but by far the greatest proportion of the loathsome partakers of this cannibal meal were the Egyptian Vultures. This grave-yard was a loathsome spectacle—many, indeed most of the graves torn open, human bones, men's and women's skulls, bits of hair, and the clothes of the dead, scattered about in all directions. All attempts to scare away the Vultures were utterly ineffectual. I shot one of them (a very old male bird if one may judge from its plumage) as it was hovering over the burying-ground; and a general scramble of the inhabitants of Nŭkhl took place as the bird was seen to fall. I heard from my dragoman that the fellow that got this bird eat it the same evening.

4. Aquila pennata (Gm.). Booted Eagle.

We met with one single pair in the desert on the 13th of April, about seventy miles due south of Edh Dohorigeh. There were more Quail and Sand-Grouse on our line of march that day than on any other occasion; and I attribute the presence of *A. pennata* to this circumstance. They were very wary, and kept well out of harm's way.

5. Aquila nævia (Gm.). Spotted Eagle.

Met with at rare intervals throughout the desert, but must certainly be called a scarce species, at all events at this time of the year. We saw it in Palestine, and notably in the mountains of Moab and valley of the Jordan.

[To be continued.]

XV.—*Notes on the Ornithology of New Zealand.*

By Walter L. Buller, Sc.D., F.L.S., &c.

When I undertook to write a history of the birds of New Zealand, I was not insensible to the difficulties of the task. The field was a comparatively unbroken one; and, with a few notable exceptions, the existing literature was confined to dry lists of names and characters of species. In the preparation of my work I had therefore to rely mainly on the results of my own observations, extending over a period of many years. At the same time I freely availed myself of the assistance of Mr. Potts and other local observers, whose contributions were, in every instance, duly acknowledged. Having produced a royal-quarto volume of some 400 pages, the bulk of it being purely original matter, it was not to be expected that my statements on every point would pass unchallenged, or that naturalists who think for themselves would indorse all my views. Besides, as I have explained in my preface, our present knowledge of many of the rarer species is confessedly imperfect, while in regard to all of them some new fact is being constantly added to the general stock of information. The notes and corrections of impartial observers in New Zealand will be very valuable to me, as they will assist in making a future edition of my work more exhaustive and complete. The first contribution of this kind is Captain Hutton's paper, which appeared in the last number of 'The Ibis.' But in attempting to correct my inaccuracies Captain Hutton has fallen into some errors himself.

SCELOGLAUX ALBIFACIES.

Captain Hutton states that there is no evidence to show that the Laughing Owl was formerly more plentiful than it now is, or that it has almost totally disappeared. Of the former fact I have abundant evidence in the accounts given by the Maoris. As to the present scarcity of the bird, it may be sufficient to state that I have never heard of more than a dozen specimens, and have never seen but one living example. Captain Hutton does not state that he has ever met with this bird outside of a museum; and the peculiar sound "like two branches of a tree rubbing together," which he has so often heard in the New-Zealand forest, may, I think, be accounted for in a very simple manner, without inventing an Owl.

STRINGOPS HABROPTILUS.

Captain Hutton ought to have quoted the whole of the sentence; for I stated that "in all the essential characteristics of structure it is a true Parrot." My statement that "there is no physiological reason why the Kakapo should not be as good a flier as any other Parrot," must of course be read with the context. My argument was that *disuse*, under the usual operation of the laws of nature, had, in process of time, occasioned this physical disability of wing. My statement that this species subsists chiefly on mosses rests on the authority of Dr. Haast, who has collected and dissected far more specimens than any other person in the colony, and whose close study of the bird in its native haunts is sufficiently manifest from the paper which appeared in 'The Ibis' of 1864 (pp. 340–346). Captain Hutton does not inform us what particular kind of moss he offered in vain to his captive bird.

NESTOR OCCIDENTALIS.

I am very doubtful myself about this species; and Dr. Finsch may therefore be right in uniting it to *N. meridionalis* (see my remarks, B. of N. Z. p. 50). I have in my possession, however, a note from Captain Hutton declaring himself in favour of *Nestor occidentalis* as a species, distinguishable from *N. meridionalis* "by having the upper mandible more compressed and flat on both sides, with the tooth further out and the lower mandible not reaching it." For my own part, I attach very little importance to these variations in the character of the bill; for that member is more or less variable in all the species of *Nestor*.

HETERALOCHA ACUTIROSTRIS.

Mr. A. H. Garrod, in his exhaustive account of the anatomy of this bird (P. Z. S. 1872, pp. 643–647), states that the tongue is "slightly bifid at its apex and a little prolonged backwards at its lateral borders."

HALCYON VAGANS.

Captain Hutton is quite mistaken in his remarks on this bird. I have myself observed it catching fish in the manner described; and Mr. Potts, who is known to be a very accurate observer, states that "fish and crustacea furnish some portion of its food supply" (Trans. N. Z. Inst. 1869, ii. p. 53). Nor do "the rest of the genus subsist entirely on insects and crustacea." Dr. Jerdon states that *Halcyon smyrnensis* catches fish, "for which it sometimes dives," and that *Halcyon pileata* "feeds both on fish and insects." *Halcyon gularis* is said to be a fish-eater; and Mr. Motley declares that *Halcyon coromanda* "subsists entirely on fish." Dr. von Heuglin states that *Halcyon semicœrulea* is "more of a fish-eater than fond of orthoptera," and that *Halcyon chloris* likewise habitually fishes. To come nearer home, I may add that Mr. E. P. Ramsay, of Sydney, records that he has watched *Halcyon sanctus* "catching flies from the surface of the water, and occasionally a stray fish or two."

PROSTHEMADERA NOVÆ-ZEALANDIÆ.

The young figured in my work is from a specimen in the British Museum. My artist has somewhat exaggerated the white on the neck and given it too much of a crescent form. I must refer the reader to my description of the young (B. of N. Z. p. 88), where this feature is specially mentioned.

ANTHORNIS MELANURA.

The extensive wooded district lying between Wangarei and the North Cape is not inhabited by Maoris at all; and Captain Hutton's argument therefore fails. Dr. Hector, who made a geological survey of this district in 1868, did not meet with a single *Anthornis,* whereas formerly these birds existed there in thousands. As Captain Hutton has "never observed any bright-coloured feathers," he cannot, I think, have collected many nests. The observations recorded by Mr. Potts (Trans. N. Z. Inst. 1869, ii. p. 56) fully accord with my own.

ORTHONYX ALBICILLA.

I cannot concur in the opinion expressed by Captain Hutton; for the two birds certainly belong to the same genus. I confess, however, that the form is somewhat aberrant from the typical *Orthonyx.*

As to resemblances of song, that is purely a matter of fancy and association. I have never considered the song of our Wood-Robin (*Miro longipes*) in the least degree like that of the Canary.

CERTHIPARUS NOVÆ-ZEALANDIÆ.

I cannot accept Captain Hutton's identification of the supposed eggs of this bird in the Otago Museum without further proof. I have already pointed out (B. of N. Z. p. 105) that he had confounded this species with the very common *Orthonyx albicilla* of the North Island. He has since repeated the error in his 'Catalogue' by stating (p. 11) that *Certhiparus novæ-zealandiæ* inhabits "both islands."

GERYGONE FLAVIVENTRIS.

The fact that this species uses spiders' nests in the construction of its own nest was first mentioned by me in 1870 (Trans. N. Z. Inst. vol. iii. p. 42), and was contradicted by Captain Hutton, in his usual emphatic manner, in the critical notes appended to his 'Catalogue.' There is nothing unaccountable, as it seems to me, in the use of the green-coloured nest of *Epeira verrucosa,* and the rejection of the orange-coloured nest of *E. antipodiana.* It is easily explained on the principle of assimilative or protective colouring.

My description of *G. albofrontata* was taken from the type specimen in the British Museum.

XENICUS LONGIPES.

Captain Hutton is in error in stating that the specimens of *Xenicus longipes* in my collection (Colonial Museum) were wrongly determined. There is no such species as *Xenicus stokesii.* The explanation of the strikingly incorrect figure of *X. longipes* in the 'Voyage of the Erebus and Terror' will be found at page 116 of my 'Birds of New Zealand.' I may mention that in company with the late Mr. G. R. Gray, I examined Forster's original (unfinished) drawing of this bird, in which the bill is depicted as straight and the eye-circlet almost wanting. Mr. Gray told me that his artist was responsible for the alterations in the published figure (which represents a bird with an upturned bill like *Acanthisitta*), and that his own description of the species (Voy. Ereb. & Ter. p. 4) was taken from the latter! After we had thus sifted the matter and compared specimens, Mr. Gray readily admitted that his *Xenicus stokesii* (Ibis, 1862, p. 219) would not stand.

MIRO TRAVERSI.

Captain Hutton misquotes me in a very unfair manner. I never said that he had made any *suggestion* to me about naming the bird. The specimen was kindly sent to me by Dr. Hector without any restriction; and I might have anticipated Captain Hutton by describing it under any other name. Knowing how the case stood, however, I stated (p. 123) that I had "much pleasure in adopting Captain Hutton's proposal" to name the species in honour of the discoverer. At that time no description of the bird had been published; nor did I receive the proof of Captain Hutton's paper in the 'The Ibis' till after my account of *Miro traversi* had been printed off. Part ii. of my work, containing this, was published in June; 'The Ibis' a month later.

MYIOMOIRA MACROCEPHALA.

Dr. Finsch agrees with me in opinion that *Myiomoira dieffenbachii* is not separable from *M. macrocephala.*

GLAUCOPIS CINEREA.

Captain Hutton and Mr. Travers are quite right about the peculiar feeding-habit of this bird. I frequently observed it in my captive specimen of *G. wilsoni*, but somehow omitted to record it. I have noticed this habit in *Porphyrio melanotus* (B. of N. Z. p. 186).

CARPOPHAGA NOVÆ-ZEALANDIÆ.

My description of the egg of this species was taken from one obtained by me in the Upper Manawatu many years ago. The specimen came into my hands very much broken; and as my measurements were consequently uncertain, I adopted those given by Captain Hutton as from a perfect specimen, never supposing that he could mistake the egg of a Petrel for that of a Pigeon! The addition "*sometimes* marked with obscure purplish spots" was on the same unfortunate authority; for my specimen had no spots whatever, and the natives had always described the egg to me as being perfectly white.

OCYDROMUS EARLI.

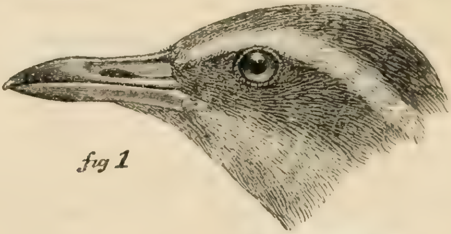
Captain Hutton expresses some astonishment that I did not preserve Dr. Hewson's specimen of the hybrid Wood-hen, or ascertain what it developed into. The bird was promised to me, but unfortunately was shortly afterwards consigned to the pot; and this put an end both to the specimen and its "development." Captain Hutton quotes me incorrectly in stating that I carefully examined *several* supposed hybrids.

OCYDROMUS AUSTRALIS.

Dr. Finsch is probably right in distinguishing a second species (*O. troglodytes*). I have myself stated (B. of N. Z. p. 171) that "examples from different localities exhibit so much variety in size and plumage as to suggest the existence of another, closely allied species."

RALLUS DIEFFENBACHII.

In my letter which appeared in the last number of 'The Ibis,' I stated that Captain Hutton was entirely wrong in assuming that *Rallus dieffenbachii* and *R. philippensis* are the same, or very nearly allied species (Ibis, 1873, p. 350). The following sketch (by Keulemans) from specimens in the British Museum will sufficiently illustrate my argument:—



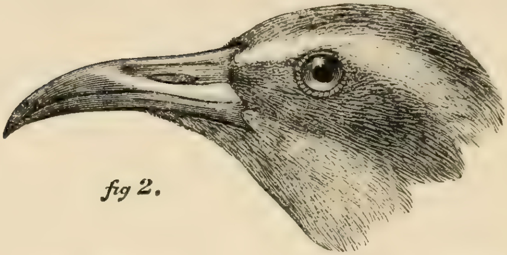


Fig. 1. *Rallus philippensis.* Fig. 2. *Rallus dieffenbachii.*

RALLUS PHILIPPENSIS.

Captain Hutton is in error in stating (*l. c.*) that "*R. philippensis* has no claw at the end of the thumb." The claw is well developed and very sharp at the point.

CHARADRIUS FULVUS.

Captain Hutton is under a wrong impression as to my having presented the specimen of *C. fulvus* which exists in the Auckland Museum. It was there as far back as 1855; and beyond the assurance of the curator that it was a New-Zealand example, I know nothing whatever about it. The species (according to Drs. Finsch and Hartlaub) is distributed over the islands of the South Pacific; and there is nothing "unlikely" in its occurrence in New Zealand.

ANARHYNCHUS FRONTALIS.

Captain Hutton says he has never seen this bird "run round a stone" in the manner described by Mr. Potts. But this is merely negative evidence. Mr. Potts describes this habit from *actual* observation. Captain Hutton's principal argument against it is, that "unless the bird is also furnished with some means of seeing round a corner, it would not be able to see the insect it wanted to catch;" but an essential part of his own theory of the use of the bent bill is that it enables the bird "to search over a greater extent of algæ for creatures that *it could not see,* than if it used only the point of the bill."

NYCTICORAX CALEDONICUS.

Captain Hutton acknowledges that his only reason for recording this species as occurring in both islands was that he "somehow got the idea into his head." Statements made in this loose and unscientific manner are not very creditable to a professed naturalist. My specimen of *Nycticorax caledonicus* was obtained in the North Island; and I heard of two instances of the occurrence of this bird at Hokitika, in the South Island. This was my authority for including the species in my work; and Captain Hutton is therefore mistaken in supposing that his 'Catalogue' had led me astray.

I did not give any particulars of locality &c. when I handed my collection of New-Zealand birds over to the Colonial Museum; but a number was affixed to each specimen corresponding to that on my list. With Dr. Hector's concurrence, and for obvious reasons, all further information was reserved for my own work, then in course of preparation.

LARUS BULLERI.

Although this bird may sometimes form a rude nest of dried bents, it usually deposits its eggs on the ground; so also does *Larus scopulinus.*

DIOMEDEA MELANOPHRYS.

I had unfortunately overlooked Captain Hutton's paper, or would certainly have quoted it, especially as it qualifies his former statement (Ibis, 1865, p. 278) that *D. melanophrys* is "quite diurnal in its habits."

PELECANOIDES URINATRIX.

I still think that "a rapid fluttering movement along the surface of the water" correctly describes the flight of this bird. Mr. Gould, in his account of this species, says that "its flight is a curious fluttering motion, performed so close to the surface that it rarely rises high enough to top the waves, but upon being met by them makes progress by a direct course through instead of over them;" and Latham states that it congregates in flocks "fluttering upon the surface of the water or sitting upon it."

PUFFINUS BREVICAUDUS.

My specimen was picked up on the sea-beach between Waikanae and Rangitikei, where this bird is often cast ashore. The natives on that coast identified it as the same that breeds in the Kaimanawa and Taupo-patea ranges. I can hardly think they would confound it with *Procellaria parkinsoni*, which is a very different bird.

PUFFINUS GAVIUS.

In giving *P. opisthomelas* (Coues) as a synonym of this species, I had no wish to ignore Captain Hutton; but it is manifestly impossible in a list of synonyms to do more than give the leading reference in each case. Captain Hutton has apparently forgotten that we went into the question together before I left the colony, and came to the conclusion that *P. opisthomelas* and *P. gavius* were the same. Dr. Coues states that the former species is abundant on the south Pacific coast of North America. Assuming, therefore, their identity, I was justified in assigning our bird a "wide oceanic range." To Dr. Finsch belongs the credit of having since put us right on this point. This author says (J. f. O. 1872, p. 256), "Hutton's account of this species, which, since Forster's time has not been examined, appears to be perfectly correct; but he is certainly mistaken when he asserts most positively that *P. opisthomelas* (Coues) is the same species. This could only be determined by actually comparing the typical specimens; and this would clearly show a difference between the two species. Hutton's description is far too superficial to allow of any thing approaching to a correct opinion."

As Captain Hutton is so very sensitive about not being acknowledged, it is a little surprising that when he wrote to 'The Ibis,' some time ago, stating that he "had found out his mistake" in describing *Graucalus melanops* as *Colluricincla concinna,* he did not also state to whom that discovery was due.

THALASSIDROMA FREGATA.

My experience differs from Captain Hutton's; for I have always found *Thalassidroma melanogaster* more plentiful on our shores than *T. fregata.*

PROCELLARIA PARKINSONI.

When I left the colony all the known examples had been obtained in the Hauraki Gulf. I am aware that the species has since been met with in Cook's Strait and on other parts of our coast.

DAPTION CAPENSIS.

What I meant, of course, in the words quoted by Captain Hutton, was the *known* history of this familiar species; for I had nothing to add to it. It is equally common on the Atlantic and Pacific Oceans, and many excellent accounts have been written of it.

PHALACROCORAX NOVÆ-HOLLANDIÆ.

I cannot see how Captain Hutton's visit to the South Island in any way affects the argument. The only question is whether the diffference of plumage (admitting it to be constant) entitles our bird to rank as a distinct species. I follow Mr. Gould in believing that it does.

PHALACROCORAX BREVIROSTRIS.

This species certainly does occur in the Chatham Islands; for I shot a specimen there myself during a short visit in 1855.

PHALACROCORAX PUNCTATUS.

I stated (B. of N. Z. p. 336) in reference to this figure that I was by no means certain whether this was not only a seasonal state of plumage. I cannot, however, accept Captain Hutton's dictum on this point till he gives some facts in support of it. Mr. Fuller, who has collected scores of these birds at all seasons, rejected this view, and assured me that he had found the crested and the uncrested birds breeding in separate pairs at one and the same time. Both Dr. Haast and Mr. Fuller were inclined to consider the uncrested bird a distinct species.

Apteryx mantelli.

The few instances that Captain Hutton records do not suffice to make *Apteryx mantelli* a common species in the North Island. Its practical scarcity may be inferred from the fact that an offer of £5 for a specimen, which appeared some years ago in the Maori newspaper, failed to obtain one.

I must here record my total dissent from the opinion expressed by Captain Hutton, and based on the structure of the egg-shell, that *Apteryx* "belongs to the Carinate type of birds" (Trans. N. Z. Inst. iv. p. 167); for such a view is entirely opposed to the principles of modern classification.

XVI.—*Remarks on Mr. Legge's Paper on Ceylonese Birds.*

By E. W. H. Holdsworth, F.L.S. &c.

The publication of Mr. Legge's observations on the distribution of birds in the southern hill-region of Ceylon will doubtless be received with satisfaction by all who are interested in the somewhat peculiar avifauna of that island; and I especially am glad of the information he gives about a district with which I have had only a slight personal acquaintance. Mr. Legge is an active worker, and has told us some interesting ornithological news; but there are some points in connexion with particular species mentioned by him about which more precise information would be desirable, and one or two others which are perhaps open to criticism. As we are both anxious to have an accurate account of the manners and customs of the birds of the island placed on record, some comments will, I hope, not be considered altogether out of place.

The particular point of interest to me in Mr. Legge's paper is the record of the occurrence at 1500 or 2000 feet, in the south of the island, of birds hitherto supposed to be generally confined to the upper hills, and especially abundant at an elevation of about 6000 feet in the central province.

In my catalogue of the birds of Ceylon* I called attention to the migration of many of the resident species from one side of the island to the other at the times of the change of the monsoons, and also of some of the birds of the upper hills being met with periodically as low down as the neighbourhood of Kandy, at an elevation of only 1500 or 1600 feet, which is about the highest range of the general low-country species. The hill-birds Mr. Legge mentions as being found in the lower part of the southern hills, are just the same species which, at only certain seasons, are met with at corresponding elevations near Kandy; and the question is whether the same rule does not hold good in both cases—namely, that just at the change of the monsoons, when there is a general break-up of the weather, followed by a complete reversal of the direction of the wind, the hill-birds temporarily descend to lower districts. The most remarkable instance of what has been hitherto considered a purely hill-species being found by Mr. Legge very low down on the small ranges near the sea, is *Chrysocolaptes stricklandi*. This bird is resident in the country between 4000 and 8000 feet (the latter being the highest elevation in the island); and I have met with it most abundantly at about 6000 or 7000 feet, and, more or less, at all times of the year. Unfortunately, Mr. Legge rarely gives any hint as to the time of year when he has obtained the hill-species in the lower districts of which he speaks. A specimen of this Woodpecker, however, which he sent home for identification, and which came under my notice, was labelled as having been killed in March; and that is just the month, between the monsoons, when many of the hill-birds are met with about Kandy. It looks, therefore, in this case, as if the bird may have been only a visitor.

Among other species resident in the highest parts of the island, and which Mr. Legge found at only 2000 feet, are *Myialestes cinereocapilla* and *Eumyias sordida*, and *Zosterops ceylonensis* as low as 1500. The first is, I believe, a hill-species in India, but descending to the plains in many places during winter; the other two are not known out of Ceylon, and it will be interesting to hear whether they remain at all seasons where Mr. Legge met with them. The occurrence of *Cissa ornata* in comparatively low country is not surprising, as it only visits the upper hills during winter, and at that time I expect Mr. Legge would not find it in his district.

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* P. Z. S. 1872.

There is nothing which better shows how much there is to reward a diligent collector in Ceylon than Mr. Legge's discovery of *Drymocataphus fuscicapillus* in some abundance near Galle. Only a few localities for this bird (most of them in the low country) had been previously recorded; but the expression "it appears to have escaped much observation hitherto in Ceylon" is likely to mislead those who may not be aware that the bird is peculiar to that island. The statement, however, that this species "is one of the commonest and most widely distributed birds in the southern province" will certainly require some qualification. Here, I suspect, the question of season will have to be considered; if not, it is difficult to understand why other collectors of considerable experience in looking for birds should not have met with this one in the south. In 1869 I spent the whole of the month of August collecting in parts of the southern province; during most of the time I was only about twelve miles inland from Galle, and sometimes making excursions to the lower hills near the Morowa Korle. Yet I never saw or heard *Drymocataphus*; and I think I could hardly have missed it had it been "one of the commonest birds" there, as, in the following month, whilst travelling across the centre of the island on my way to Trincomalie, I was attracted by some notes quite new to me, and after a little difficulty succeeded in shooting this very species whilst it was in the act of uttering them. It is remarkable also that Layard never met with this bird in the southern province, although, as the discoverer of the species, having first obtained it close to his house at Colombo, and afterwards in the centre of the island, he would not have been likely to pass it by. Two other collectors, one English and one native, have also done good work in the south, but did not meet with this bird. I think, then, it cannot be a constant resident there;

and possibly Mr. Legge's pen may have run away with him a little when he described the bird as one of the commonest in that province. He probably obtained it in several localities; but, curiously enough, he only mentions one.

Such remarks, also, as that *Palæornis calthropæ* is more abundant in two particular localities on the southern hills "than anywhere else in the island," and that *Merops philippinus* "is more abundant in the extreme south than in other parts of Ceylon," appear to me somewhat rash, considering Mr. Legge's military duties have prevented his having opportunities for long-continued observations anywhere except at Colombo, Galle, and Trincomalie. *P. calthropæ* is a great wanderer; but I did not meet with it in the south in August, although *P. rosa* was abundant near the Morowa Korle. *M. philippinus* used to be so abundant at Aripo, on the northern coast, from the end of September to April, that the very common *M. viridis,* a resident there, was scarce in comparison with it.

A matter of more consequence to those interested in the ornithological relations of Ceylon to other countries is that Mr. Legge calls the south-east coast of the island "that remarkably Indo-Ceylonese region" where all the peninsular birds found in the island are met with (p. 25). It would not be difficult to make a pretty long list of Indo-Ceylonese species which have not yet been recorded from there; but it is well known that the quadrupeds, birds, reptiles, insects, and plants of the northern portion of the island are specially Indian in their character, and that very few of the peculiar Ceylonese forms are found there. The latter are to be met with only in the southern half, with a few exceptions; and the northern half is undoubtedly the Indo-Ceylonese region.

There are many portions of Mr. Legge's interesting paper which deserve notice; but I must keep within the space at my command. I hope Mr. Legge will be able to clear up the mystery of the Devil bird; but he must not trust too much to the negative evidence afforded by the silence of his *Syrnium indranee,* as Owls rarely utter their peculiar cries in captivity. Remarkable vocal powers might be expected from *Batracho-*

stomus; but the known range of that bird in Ceylon is far less than that in which the Devil-cry has been heard. I am able to add something to the history of *Prionochilus vincens*, as my friend Mr. Bligh has just obtained it on one of the coffee-estates, at about 4000 feet. He has sent me a minutely accurate description of the bird, and inquired if it were *P. vincens*, of which he had heard, but had not seen a description*. The birds were feeding on guavas and other fruit. He had also just shot a specimen of that rare Eagle, *Limnaetus kieneri*, which I believe has never before been met with so far south; and he adds that Java Sparrows had by some means found their way to the Ceylon hills; for he had been for some time watching a flock on the estate. It is as well to record this, as there can be little doubt about these strangers having been introduced.

To return to my subject in a few last lines, I think it is a pity the demands on Mr. Legge's time have prevented his making many little corrections which would have added to the value of his paper. He has made several alterations in specific names in accordance with my catalogue, which he told me he should do; but *Spilornis cheela* and others still appear as Ceylonese birds, without just right to the title, and his *Tringa temminckii* proved to be *T. salina* when examined in this country. He has done good work, however, in the island; and, besides the interesting novelty *Prionochilus vincens*, has added *Poliornis teesa*, *Phylloscopus magnirostris*, and *Prinia hodgsoni* to the Ceylonese list. I trust that Mr. Legge may be able to continue his labours and make many more such discoveries. At the same time I venture to hope that he will not think a few more particulars about dates and a little more precision of expression will detract from the value of his papers on Ceylonese birds.

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* Among the numerous birds brought home more than thirty years ago from Ceylon by the late Mr. Hugh Cuming is a female of this species, in the British Museum; it is in bad condition, and has been only recently identified.

XVII.—*On a further Collection of Birds made by* Lieutenant Robert Wardlaw Ramsay, F.Z.S., *in the Andaman Islands.* By Arthur, Viscount Walden, P.Z.S., F.R.S.

(Plates IV.–VI.)

Since publishing my notes* on a collection of birds made in the Andamans by Lieutenant Wardlaw Ramsay, that gentleman has kindly sent to me a large number of specimens from the same locality, the fruits of about two months' indefatigable exertion. They include thirty-nine species additional to those contained in his first consignment. These I propose to notice in the following pages, while in a future number of 'The Ibis' I hope to be able to lay before its readers a complete list of the species known to inhabit the Andaman archipelago, together with some further remarks on some of the species mentioned in my former paper.

Besides the rich series of specimens collected by Lieutenant Wardlaw Ramsay, I have had the advantage of being able to examine a valuable collection made in the same islands by Captain Wimberley. This gentleman has sent home the first specimens known in Europe of *Ninox affinis*, Tytler, an excellent species; and he has also forwarded a numerous series of *Spilornis elgini*, which leaves no doubt of the validity of that species as distinguished from *S. bacha*—an opinion in which I believe I am entitled to say that Mr. J. H. Gurney concurs.

63. Limnaetus andamanensis (Tytler), P. A. S. B. 1865, p. 112, "Port Blair, Andamans."

Spizaetus andamanensis, Tytler: Beavan, Ibis, 1867, p. 315, no. 6; Hume, Scrap Book, p. 203 (1869).

"S. Andaman, April 15: ♂, bill slaty horn-colour; cere greenish; iris amber; toes dirty yellow."

Lower surface from chin to vent pure white, the terminal portion of most of the feathers being centred with rich brown, imparting a streaked appearance to this portion of the plumage, a distinct brown line descending from the chin to the breast. Under tail-coverts and axillaries pale dingy ferruginous brown irregularly barred with white. The elongated flank-plumes covering the thighs white terminated and blotched with pale ferruginous brown. Thigh-coverts pale ferruginous brown, those of the tarsus white, here and there speckled with brown. Head and nape clothed with lanceolate feathers, white at their base, the terminal and exposed portion of each centred with dark brown and margined with ferruginous. No crest-plumes. Remainder of upper plumage dark brown, each feather with more or less of paler marginal shading. Upper surface of rectrices the same. Middle pair with four narrow ill-defined but very dark brown transverse bars, and a broad terminal dark brown band fringed with albescent. The rectrices underneath albescent, the brown bands strongly contrasting. Under wing-coverts white, irregularly but boldly banded with dark brown. Quills underneath albescent, with three or four dark brown transverse bands and tipped with the same colour. Basal half of the quills almost pure white. Quills above, when closed, dark brown.

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* Ibis, 1873, pp. 296–321.

Wing 13·24 inches; tarsus 3·6; tail 10·4; bill from gape 1·7; total length 21·8 (in the flesh).

This Eagle is a crestless form of *L. ceylonensis* (Gm.)[*] and of *L. cirrhatus* (Gm.). The specimen above described is absolutely identical in plumage with a Candeish example of *L. cirrhatus*. It cannot be confounded with *L. alboniger* (Blyth) in any stage of plumage; for the adolescent plumage in that species is of a uniform buff, and when older, but before it has put on its handsome full dress of black and white, the markings are ferruginous buff, and not brown. But the best differentiating character of *L. alboniger* is to be found in the first joint of the middle toe being feathered for full half its length,—a character it has in common with the much larger *L. nipalensis*, and which is also possessed to a less extent by the Celebesian representative form of that species, *L. lanceolatus*.

[*] Probably = *Spizaetus sphinx*, Hume, Str. Feath. i. p. 321.

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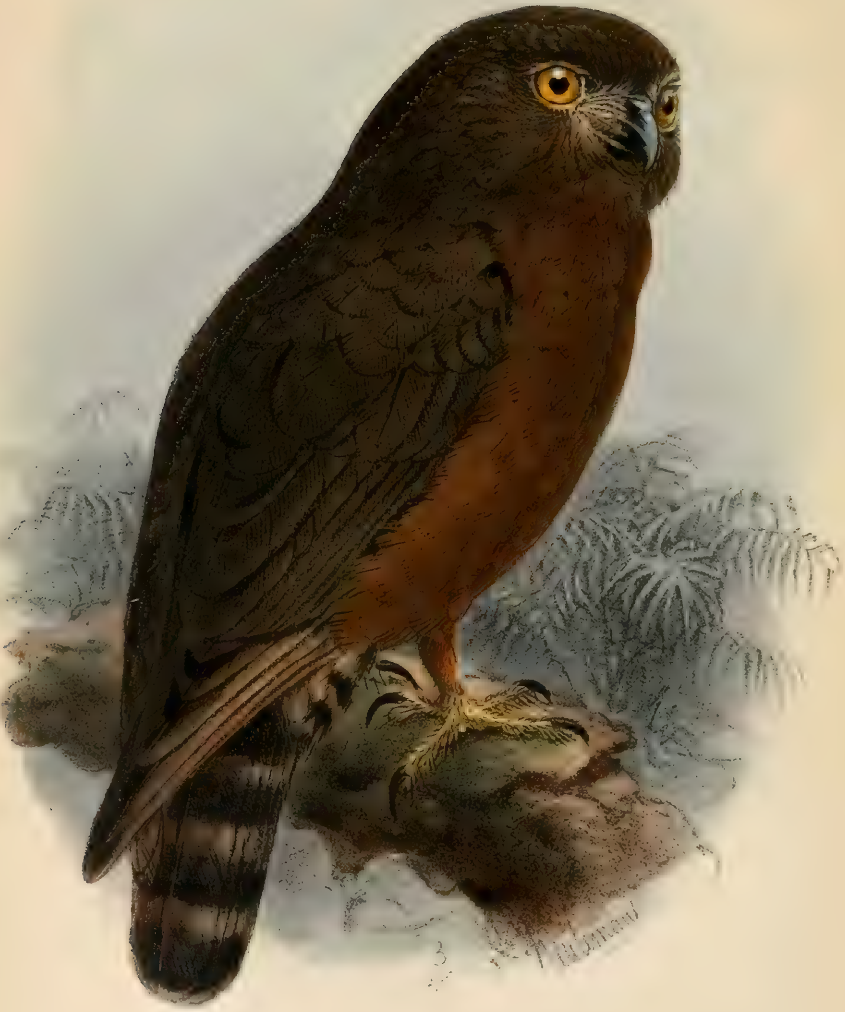

J.G. Keulemans lith.

M & N Hanhart imp.

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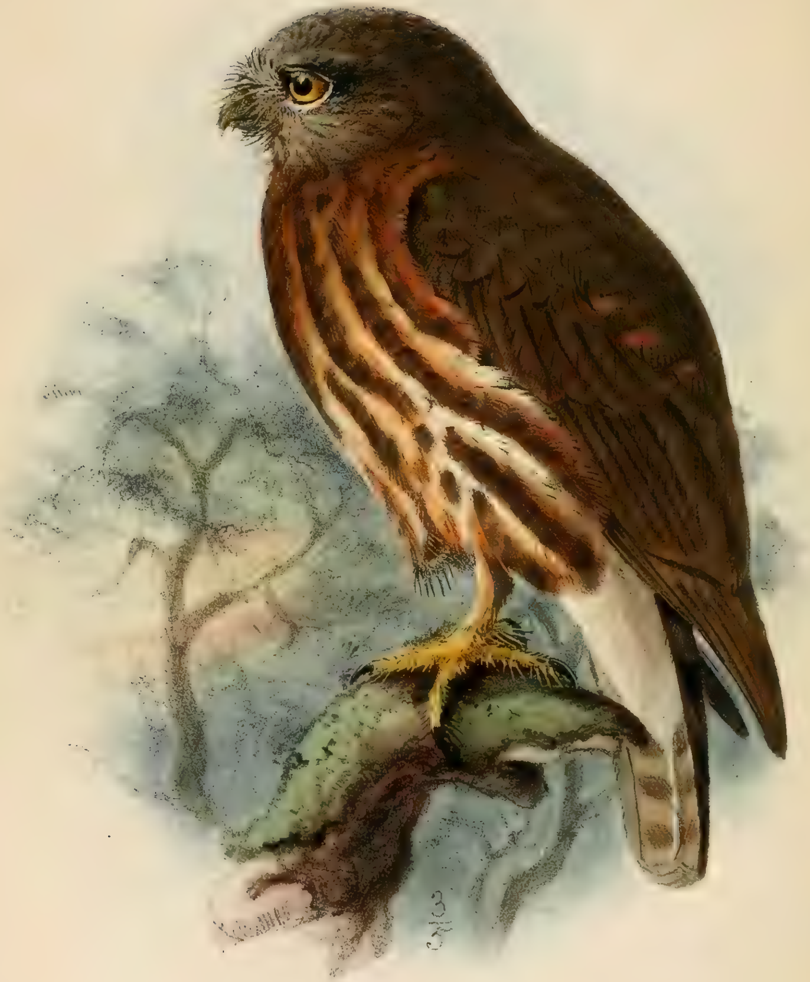

J. G. Keulemans lith.

M & N Hanhart imp.

NINOX AFFINIS.

64. Haliaetus leucogaster (Gm.), S. N. i. p. 257. no. 43 (1788).

"Macpherson Straits, S. Andaman, March 5: bill dark slate; legs dirty white; iris yellowish grey."

A young male in first plumage.

65. Scops modestus, Walden, Ann. N. H. (4) xiii. p. 123, "Port Blair, S. Andaman" (Feb. 1874).

Distinguishable from all the other described Asiatic species of the genus by its sober colours and plain markings, and, with the exception of *Scops mantis,* by its diminutive size.

66. Ninox obscurus. (Plate IV.)

Ninox obscurus, Hume, Str. Feath. i. p. 11, "Nicobars, near Camorta" (Nov. 1872); Ball, *tom. cit.* p. 55 (Feb. 1873).

Ninox, sp.? Ball, J. A. S. B. 1870, p. 240, "Port Mouat."

"South Andaman, ♂, March 1: iris bright yellow; legs pale yellow; maxilla dark brown; culmen and mandible greenish slate."

The fourth primary in this example slightly exceeds the third and is the longest; the third exceeds the fifth. Dimensions in the flesh: total length 11·10 inches; wing ·9; tail 5·15. The stiff bristles which arm the sides of the toes are dark brown.

67. Ninox affinis. (Plate V.)

Ninox affinis, Tytler: Beavan, Ibis, 1867, p. 316. no. 10, "Aberdeen Point, Port Blair;" Hume, Scrap Book, p. 421 (1869).

? *Athene hirsuta* (Temm.), v. Pelzeln, Novara Exp. *Aves,* p. 26, "Kondul Island, Nicobars" (1865).

? *Ninox hirsuta* (Temm.), Ball, Str. Feath. i. p. 54. no. 10, "Nicobars" (Feb. 1873).

"Port Blair, S. Andaman: ♂, May 31, colour of eye pale blue (?), feet pale yellow; ♂, July 17; ♀, Aug. 8." (Wimberley.)

Readily distinguishable from *N. hirsutus* of Ceylon, India, and Burma, and the smaller race, *N. malaccensis,* of the Malay peninsula by its much inferior dimensions, the more cinereous colouring of the head and nape, by the concealed spots or bars on the scapulars being pale rufous or fulvous (not pure white), and by the abdominal feathers being dark-centred and then bright rufous, with white edges only and not barred through with white. In *N. hirsutus* and *N. malaccensis* the abdominal feathers are traversed by a broad pure white bar and terminated by a bold brown (in some a rufous brown), not bright rufous, drop. *N. borneensis* resembles *N. malaccensis* in general colouring above, and has also the scapulars spotted with pure white and the abdominal feathers crossed by a white band; but the terminal drop of each feather is larger and bright rufous, not brown. *Ninox affinis* has five caudal bands. It has a longer tail and a shorter wing than *N. borneensis.*

Until examples of the Sumatran *Ninox* can be compared, the Malaccan species must retain the title of *N. malaccensis* (Eyton). This last will probably prove to be identical with the Sumatran, and have to take the title of *N. scutulatus* (Raffles); or this Andaman species may be the same as the Sumatran.

A. hirsuta (Temm.), v. Pelzeln (*l. c.*), is undeterminable, as neither of the two examples, captured in an island of the Nicobars, was brought to Europe. Mr. Ball also mentions (*l. c.*) an example of a *Ninox,* received by him from the Nicobars, which, he says, sufficiently well agrees with Temminck's plate and description of *N. hirsutus*; but he does not absolutely identify it with that common and well-known species; nor does Mr. Hume (Str. Feath. p. 12), to whom the specimen was sent, speak decidedly. The dimensions given by Mr. Ball (*l. c.*) are much too large for *N. affinis*; and this, taken together with the fact that both that gentleman and Herr v. Pelzeln identified these Nicobar individuals with *N. hirsutus,* make it possibly probable that another form approaching the Malayan species does occur in that group of islands; for the dimensions stated by Mr. Ball (wing 8, tail 5) are too large for even *N. malaccensis.* It may be here repeated that the title of *hirsuta* was bestowed by Temminck on the Ceylon Hawk Owl, and that of *scutulata,* Raffles, was given to the Sumatran.

In *N. affinis* the fourth quill is the longest, and the fifth slightly exceeds the third.

	Longitudo		
	Alæ.	Caudæ.	
N. affinis, ♂	6·62	4·75	Port Blair; five caudal bands.
" "	6·62	4·62	" " "
" ♀	6·75	4·75	" " "
*N. borneensis** ..	7·12	4·50	Marup, N. Borneo; four caudal bands.

68. CAPRIMULGUS MACRURUS, Horsf. Tr. L. S. xiii. p. 142, "Java" (1820).

"S. Andaman: March 10, ♀, iris brown, bill black, legs and feet pinkish brown; April 22, bill dark brown above, below carneous, legs dingy vinous. Stewart Sound, Middle Andaman: April 3, bill horny brown, legs pinkish brown, iris dark brown."

"Port Blair, S. Andaman, June 17, July 28." (Wimberley.)

These five examples belong to a small race of the Javan long-winged Goatsucker. Perhaps they may claim to be regarded as belonging to a distinct species; for they are of a much darker colour above, in hue resembling *C. jotoka*, their markings are somewhat different, and the terminal white spots of the two outer pairs of rectrices are very much less developed, measuring only 1·37.

	Long. alæ.	Caudæ.
South Andaman, ♀	7·13	5·37
" " ♀	7	5·25
Middle Andaman	7	5·25
Port Blair, ♀	7·12	5·50
" " ♀	7	5·25
Java, ♂	7·37	6·25
Malacca, ♀	7·35	6
" ♂	7·50	6·25

69. HIRUNDINAPUS GIGANTEUS (v. Hasselt), Temm. Pl. Col. 364, "Java" (1825).

Acanthylis giganteus (Temm.), Tytler in Blyth's Append. Mouat, Andaman Isl. p. 358. no. 17 (1863); Beavan, Ibis, 1867, p. 317, no. 13, "Ross Isl."

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* For dimensions of *N. hirsutus* and *N. scutulatus* (*malaccensis*), *cf.* Ibis 1872, p. 365.

"South Andaman: ♀, April 15, iris brown, bill dark brown, legs fleshy purple."

"Port Blair, S. Andaman: June 13, 14, 23; July 2, 3, 15, 17, 23, 28." (Wimberley.)

With the exception of three individuals killed respectively April 15 and July 2 and 23, all the examples obtained have moulted the first primary, the new quill being developed one fourth, in others one third of its length only. The second primary also is not full grown, being somewhat shorter than the third. The specimens obtained on July 2 and 23, although having fully developed primaries, are of adolescent birds, the crown being smoke-brown, hardly suffused with green, the whole lower surface being fuliginous, without any green gloss, no white indicated in the chin and throat, and the patch behind each nostril rather rusty brown than white. These adolescent examples agree well in all respects with Malaccan individuals in my collection, in which, however, the frontal patches are barely indicated. An Andaman bird, killed on June 23, in full plumage as regards its coloration, has the nostril-patches and chin almost pure white.

70. Collocalia francica (Gm.), S. N. i. p. 1017. no. 15 (1788), ex Montbeillard.

La petite Hirondelle noire à croupion gris, Montbeillard, Hist. Nat. Ois. vi. p. 696, "Ile de France" (1779).

Esculent Swallow, Lath. Gen. Synop. Suppl. ii. p. 257. no. 1, pl. 135, "Sumatra" (1802); id. Gen. Hist. vii. p. 296. no. 18, pl. 112, "Sumatra" (1823).

Esculent Swallow, Stephens, Gen. Zool. x. p. 111, pl. 12 (1817), ex Latham.

"*Hirundo esculenta*, Osbeck"*, Horsf. Tr. L. S. xiii. p. 142, sp. 1, "Java" (1820).

Hirundo brevirostris, McClelland, P. Z. S. 1839, p. 155. no. 10, "Assam." Conf. Blyth, J. A. S. B. 1845, p. 548, note; *op. cit.* 1847, p. 119.

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* There was no such title given by Osbeck; it first appears in the 'Faunula Sinensis,' of G. R. Forster, and was added by him to his English translation of the German translation by J. G. Georgi of the Swedish original by Osbeck. Forster merely employed the Linnean title.

Hirundo unicolor, Jerdon, Madr. J. Sc. xi. p. 238, "Neilgherries" (1840).

Cypselus concolor, Blyth, J. A. S. B. 1842, p. 886, ex Jerdon.

Cypselus unicolor, Jerdon, *op. cit.* xiii. pt. i. p. 173, pt. ii. p. 144 (1844).

Callocalia nidifica, G. R. Gray: Gray & Mitch. Genera of Birds, i. p. 55. no. 1 (1844), ex Latham.

Collocalia unicolor (Jerdon), Blyth, *op. cit.* 1845, pp. 209, 212, "Darjeeling, Neilgherries."

? *Hemiprocne salangana,* Streubel, Ibis, 1848, p. 368, "East Indies."

Collocalia nidifica (Lath.)*, Blyth, Cat. Calc. Mus. p. 86, no. 423, "Nilgiris, Ceylon, Sikim, Assam, Malay countries" (1849).

Collocalia nidifica, G. R. Gray: Horsf. & Moore, Cat. E. I. C. Mus. i. p. 98. no. 122 (1854).

Collocalia fuciphaga (Thunb.), Bp. C. R. xli. p. 977. no. 4 (1855); id. R. Z. 1855, p. 581. no. 4.

Collocalia esculenta (Lath.), Bernstein, Nov. Act. Ac. C. L. C. Nat. Cur. xxvi. p. 15, pl. 2. f. 3, 4 "Java" (1857).

Collocalia nidifica (Lath.), Bernstein, J. f. O. 1859, p. 118. no. 2, "Java, Sumatra, Borneo, Malacca."

Collocalia nidifica (Lath.), Jerdon, B. of India, i. p. 182. no. 103 (1862).

Collocalia fuciphaga (Thunb.), Wallace, P. Z. S. 1863, p. 384. no. 6.

Collocalia nidifica, G. R. Gray, Ann. N. H. (3) xvii. p. 118, "Java, Sumatra, and other isl. E. archipel." (1866).

Collocalia innominata, Hume, Str. Feath. i. p. 294, "Andamans" (Feb. 1873).

Collocalia spodiopygia, Peale, Hume, *tom. cit.* p. 296, "Andamans."

Collocalia inexpectata, Hume, *l. c.* "Andamans."

"S. Andaman: March 1, iris brown, bill black, legs brown, feet darker; March 24, ♂."

The large number of Andaman specimens I have been enabled to examine, collected by both Messrs. Wardlaw Ramsay and Wimberley, in no material respect differ from Sikim and Ceylon individuals; nor am I enabled to find any important character whereby they can be separated from Seychelles, Mauritius, or Réunion examples (*Hirundo francica,* Gm.).

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* No such title was ever used by Latham.

The dorsal feathers in all examples from the above-named localities have the tips of the basal portion of the webs pure white. This can only be detected by parting the feathers; for the overlapping terminal and exposed part of the dorsal feathers is uniform smoke-brown. The extent of white on the edging of the webs increases as the feathers descend the back, so that those which clothe the uropygium have more of the edges of their webs, both in length and breadth, coloured white. The result is that the white sometimes becomes partially exposed. In some of the shorter of the upper tail-coverts the white colour of the webs is still more developed, occasionally forming a conspicuous white edging; but no covert is entirely white, the tip and central part of each being of a varying shade of mouse-colour. It is thus that the albescent or pale mouse-coloured band on the rump observable in many examples of this species is produced; and it is frequently made more prominent in the dried skins by the mode of preparation of the specimens. In three examples of true *C. francica* from Mauritius and Réunion, kindly lent to me by Professor Newton, a pale band is discernible; in another from the Seychelles it is absent. In a Ceylon individual in the collection of Mr. Holdsworth it is also entirely wanting. My Sikim specimens have the band as much developed as in those from Mauritius; and Andaman birds are not to be distinguished, all of them exhibiting, more or less, a pale band on the rump. That there is a tendency in this section of the genus *Callocalia* to evolve a pure white band on the rump is shown in *C. troglodytes* and other more eastern species, in which we find it a permanent and well-determined character. But in none of the races of the species under notice does it appear to be stable, or sufficiently and constantly developed to make it a trustworthy differential character. In all other essential respects birds from the localities alluded to are identical; and I therefore adopt Gmelin's title as being the oldest.

Since writing on *Collocalia affinis* (Ibis, 1873, p. 302) I have had an opportunity of comparing it with Horsfield's type specimen of *C. linchi,* and I find that it in no way differs. *Hirundo fuciphaga* was described by Thunberg from Javan examples; and I have no doubt whatever that Horsfield's *C. linchi*=*H. fuciphaga,* Thunb. The diagnosis of *H. fuciphaga,* ample in its details, applies in every respect to *C. linchi*; while the last phrase, "differt ab *H. esculenta* cauda tota atra immaculata," of itself marks the species; for with the exception of the white spots on the lateral rectrices, Moluccan *C. esculenta* (Linn.) is barely to be distinguished from Javan *C. linchi.* The synonymy of *C. fuciphaga* will therefore be as follows:—

Collocalia (*Hirundo*) *fuciphaga,* Thunberg, Act. Holm. xxxiii. p. 151, pl. iv. "Java" (1772).

Hirundo fuciphaga, Thunb.: Horsf. Tr. L. S. xiii. p. 143, sp. 2, "Java" (1820).

Linchi Swallow, Latham, Gen. Hist. vii. p. 292 (1823), ex Horsf. *l. c.*

Collocalia fuciphaga (Thunb.), G. R. Gray & Mitch. Gen. Birds, i. p. 55, sp. 3 (1844); List Birds Brit. Mus. (*Fissirostres*) p. 21, sp. 2, "Java" (1848).

Collocalia esculenta (Linn.), Blyth, J. A. S. B. 1845, p. 212, sp. 2, "Malay coasts, Nicobar islands."

Collocalia fuciphaga (Thunb.), Blyth, *tom. cit.* p. 548, note, "Nicobars, Java;" *op. cit.* 1846, pp. 22, 369, "Nicobars;" Cat. Calc. Mus. p. 86. no. 429, "Nicobars, Java" (1849).

Hemiprocne fucivora, Streubel, Ibis, 1848, p. 369, "Ostindien," ex Thunberg*.

Collocalia linchi, Horsf. & Moore, Cat. E. I. C. Mus. i. p. 100. no. 123, "Java" (1854); Bp. C. R. xli. p. 977. no. 3 (1855); id. R. Z. 1855, p. 581. no. 3.

Collocalia nidifica (Lath.), Bernst. Nov. Act. Ac. C. L. C. Nat. Cur. xxvi. p. 15, pl. 2, f. 5, 6, 7, 8, "Java" (1857).

Collocalia fuciphaga (Thunb.), Bernst, J. f. O. 1859, p. 119. no. 3, "Java."

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* Streubel altered the name of *fuciphaga,* Thunb., to *fucivora,* on account of its hybrid construction.

Collocalia linchi, Horsf.: Bernst. *tom. cit.* p. 119. no. 4, "Nicobars."

Collocalia linchi, Horsf. & Moore: Wallace, P. Z. S. 1863, p. 384. no. 3, "Java, Malacca, Nicobar isl."

Collocalia linchi, Horsf. & Moore: v. Pelzeln, Reise Novara, *Aves,* p. 39, pl. ii. f. 2, pl. vi. f. 2, "Nicobars" (1865).

Collocalia linchi, Horsf.: G. R. Gray, Ann. N. H. (3) xvii. p. 119, "Java, Malacca, Nicobar Isl., Mergui archipel." (1866).

Collocalia affinis, Tytler: Beavan, Ibis, 1867, p. 318, "Port Blair."

Collocalia linchi, Horsf. & Moore: Ball, Str. Feath. i. p. 55. no. 16.

Collocalia affinis, Tytler: Walden, Ibis, 1873, p. 302. no. 15.

71. ALCEDO RUFIGASTRA, Walden, Ann. N. H. (4) xii. p. 487, "S. Andamans" (Dec. 1873).

? *Alcedo meningting,* Horsf.: Beavan, Ibis, 1867, p. 319. no. 24.

? *Alcedo asiatica,* Sw.: Ball, J. A. S. B. 1872, p. 277. no. 7.

"S. Andaman: Feb. 26, ♂, iris brown, bill dark brown, reddish at base, legs bright coral-red; April 12, ♂."

These examples are identical with the specimen alluded to by Mr. Sharpe under *A. asiatica* (Alcedinidæ, p. 24) in my collection, and labelled by Captain Beavan "*A. bengalensis,* Maunbhoom, Feb. 1863." The species does not appear to have been again obtained on the continent; and it is not unlikely that the specimen noted from Maunbhoom actually formed part of Captain Beavan's Andaman collection, and accidentally became mixed with his Maunbhoom specimens.

72. PELARGOPSIS BURMANICA, Sharpe, P. Z. S. 1870, p. 67; Alcedinidæ, p. 109, pl. 35.

Halcyon capensis (Linn.), Walden, P. Z. S. 1866, p. 553, "Andamans."

"S. Andaman: ♂, iris brown, bill vermilion, legs lighter vermilion; ♀, iris brown, bill, legs, and feet deep red throughout."

Four examples were obtained, and perfectly agree with Burmese individuals.

73. CEYX TRIDACTYLA (Pallas), Spic. Zool. fasc. vi. p. 10, pl. 11. f. 1 (1769).

"S. Andaman, April 21: bill and legs bright coral-red."

74. CHRYSOCOCCYX XANTHORHYNCHUS (Horsf.), Tr. L. S. xiii. p. 179, "Java" (1821); Zool. Res. in Java, pl. 59 (1824).

"S. Andaman: May 5, ♀, iris dark red, bill horn-colour, tip yellowish, legs brownish olive."

"Port Blair, S. Andaman: July 14, ♀, 23, ♂, bill orange, feet sienna." (*Wimberley.*)

A single immature example of this genus was obtained by Mr. Ramsay, which I provisionally identify as above. Wing 4 inches, tail 3, tarsus ·55, bill ·75. Above brown washed with cupreous green, parts appearing deep emerald-green, according to the play of light. Middle pair of rectrices deep green, with a terminal broad bar or rounded spot of rich blue-green. Outer pair of rectrices deep ferruginous on inner webs, white on outer, and barred through with black. Remaining rectrices ferruginous on both webs and with black bars running through. Entire under surface clothed with white feathers, each being traversed by two broad brown bars; the abdominal feathers displaying most white. With this the female example obtained by Captain Wimberley is almost identical; but the male is passing over into the amethystine plumage of the adult. It has the chin, throat, head, nape, interscapular region, some of the wing-coverts and scapulars, the upper tail-coverts and the middle pair of rectrices and two laterals of a lovely amethystine colour. Two of the primaries on one side, one on the other, and one of the secondaries are partially grown and of the same beautiful hue. The dark transverse bars of the lower plumage, and notably of the under tail-coverts are deep amethystine. The remainder of the wing- and tail-feathers and some of the dorsal plumage are cupreous green edged or indented with bright rufous.

Some of the feathers in this interesting specimen appear to have changed from green to amethystine without having been moulted. Thus the basal part of one of the median rectrices is more or less green, while the remainder is of a mixed amethystine and greenish hue. Its fellow rectrix, a new feather not fully grown, is coming in of a pure amethystine colour. Several of the upper tail-coverts are green at their base. It would therefore appear that the old feathers have the power of changing their colour from green to amethystine.

75. ? ORIOLUS MELANOCEPHALUS, Linn. S. N. i. p. 160. no. 3 (1766).

"S. Andaman: March 23, ♂, 29, ♂ ♀, iris carmine, legs greenish plumbeous, bill carneous; April 24, ♂; May 10, ♀."

The five examples in the collection differ from true *O. melanocephalus* by being smaller and by wanting the characteristic broad yellow outer margins of the two innermost tertiaries and feathers. The remaining tertiaries, as well as all the secondaries, exhibit much less yellow on their edges and at their tips. The Andaman black-headed Oriole in this respect resembles true *O. ceylonensis*; but in the latter species the secondaries possess very bold terminal yellow spots. Only one specimen is of a bird in perfect plumage. If it represents the normal characters of the race, the Andaman bird may have to be specifically separated. In their dimensions the Andaman, Burmese, Ceylonese, and Malabar birds are about equal, the average length of the wing being five inches. But the Burmese form only differs from true *O. melanocephalus* by being smaller, the average length of wing in that species from the Himalayas, Bengal, Central India, and Assam being five and a half inches.

76. GEOCICHLA ALBOGULARIS, Blyth, J. A. S. B. 1847, p. 146, "Nicobars."

Geocichla innotata, Blyth, *op. cit.* 1858, p. 270, "Andamans;" Ball, Str. Feath. i. p. 69. no. 61; Blyth, Append. to Mouat, Andaman Isl. p. 360. no. 36 (1863).

"S. Andaman: March, April, May, ♂ ♀, iris umber-brown, bill dark brown, lighter at base of mandible, legs pale flesh-colour."

The title adopted above was given by Mr. Blyth to the Nicobar *Geocichla,* which he subsequently identified (*l. c.*) with that of the Andamans. The specific name *innotata,* Blyth, was bestowed (*op. cit.* 1847, p. 146) on examples from the Malayan peninsula, from which the Andaman species appears to differ by being considerably smaller and by having the ferruginous-orange colouring of the plumage, especially on the head, less intense. Mr. Blyth, however, at a later date regarded them as identical.

	Alæ.	Caudæ.	Tarsi.	Rostr.	
G. albogularis, ♂	4	3·25	1·12	0·38	S. Andamans.
" " ♀	4	3·12	1·12	0·38	" "
G. innotata, ♀	4·62	3·25	1·25	0·50	Malacca.

77. MONTICOLA SOLITARIUS (P. L. S. Müller), Syst. Nat. Suppl. p. 142. no. 46 (1776).

Petrocossyphus cyanus (Linn.), Ball, Str. Feath. i. p. 69 (1873).

"Ross Island: Feb. 18, ♂, iris bright brown, bill black, legs dark brown."

Lower breast and ventral region deep chestnut, a few feathers here and there tipped with blue. The single specimen sent is almost identical in plumage with one obtained at Malacca on Dec. 5, 1865.

78. LOCUSTELLA LANCEOLATA (Temm.), Man. d'Orn. iv. p. 614, "Mayence" (1840).

Locustella, allied to *L. raii,* Swinhoe, Ibis, 1861, p. 412, "Amoy."

Locustella minuta, Swinhoe, P. Z. S. 1863, p. 93. "Amoy, Canton."

Lusciniola lanceolata (Temm.), G. R. Gray, Hand-l. i. p. 210. no. 2970 (1869).

Locustella minuta, Swinhoe: G. R. Gray, *op. cit.* iii. p. 277. no. 2976*a* (1871).

Locustella subsignata, Hume, Str. Feath. i. p. 409, "Aberdeen, Port Blair" (July 1873).

"S. Andaman: April 9, bill dark horny brown, below pale fleshy, legs pale fleshy white."

79. Phylloptneuste borealis, Blasius, Naumania, 1858, p. 313, "Sea of Okhotsk."

"S. Andaman: Feb. 21, bill above dark horny, below pale reddish yellow, legs dirty yellowish white; Feb. 22, ♀, iris brown, upper mandible dark horny, lower light horny, legs skin-colour; March 28, ♀."

80. Ruticilla suecica (Linn.) S. N. i. p. 336 (1766).

"S. Andaman: March 9, bill at base horny, at gape yellow, iris dark brown, legs pale brown, soles yellowish; ♂, April 14."

One example has the chin and throat pale blue; a white cross band bordering the pale blue throat; a few of these white feathers tipped with ferruginous; a dark blue band below the white, each feather white at its base; then a broad brown pectoral band, followed by ferruginous. The male specimen, obtained a month later, has the chin and throat pale blue; a broad ferruginous plastron, then a well-defined pale blue band, followed by a dark brown band terminated by ferruginous. This last example is in perfect plumage, unless the paleness of the blue on the throat and breast may be taken as indicative of non-breeding. I have never met with a South-Asiatic specimen so perfectly coloured.

81. Limonidromus indicus (Gm.), S. N. i. p. 962. no. 80 (1788), ex Sonnerat, Voy. Indes, ii. p. 207.

La Lavandière variée, Levaillant, Ois. d'Afr. iv. p. 86, pl. 179, "Caffraria" (!), 1805.

Motacilla variegata, Vieill. N. Dict. xiv. p. 599 (1817), ex Levaill.

Nemoricola indica (Gm.), Blyth, J. A. S. B. 1847, p. 429.

Limonidromus indicus (Gould), B. of As. pt. xiv. pl. (1862).

"S. Andaman: March 20, 24, 29, ♀, iris dark brown, bill horn-colour, light underneath, legs pale flesh-colour."

82. Corydalla striolata (Blyth), J. A. S. B. 1847, p. 435, "Darjeeling."

"South Andaman: ♂, April 14, iris light brown, bill dark brown above, fleshy below, legs pale flesh-colour."

Agrees with Darjeeling examples, but I am disposed to doubt the propriety of separating this form from *C. rufula*.

83. ANTHUS CERVINUS (Pallas), Zoogr. Rosso-As. i. p. 511. no. 142 (1831); Blyth, Append. Mouat, Andaman Isl. p. 361. no. 44 (1863).

Anthus rufo-superciliaris, Blyth, J. A. S. B. 1860, p. 105, "Andamans."

"South Andaman: Feb. 17, 18, ♂, iris brown, bill horn-colour, lighter beneath, legs and feet dusky skin-colour."

Two examples with vinous chin and throat, and two with but slight indications of vinous on one or two of the throat-plumes. Axillaries and shoulder-edge in all four albescent.

84. HYLOTERPE GRISOLA (Blyth), J.A.S.B. 1843, p. 180 *bis*, "Calcutta;" *op. cit.* 1845, p. 573, "Java;" *op. cit.* 1846, p. 305, "Java and Penang;" Cat. Calc. Mus. p. 153. no. 886, "Penang, Java, Arakan, very rare in Lower Bengal;" *op. cit.* 1858, p. 270, "Andamans."

? *Hylocharis luscinia*, S. Müller, Tidjschrift v. Nat. Geschied. 1835, p. 331, "Sumatra," descr. null.

Tephrodornis superciliaris, Sw. var., Blyth, *op. cit.* 1842, p. 779, "Calcutta."

Hyloterpe philomela (Müller), Cab. Arch. f. Nat. 1847, i. p. 322; Mus. Hein. i. p. 64. no. 375 (1850–51), descr. nulla.

Hyloterpe philomela (Boie), Bp. Consp. i. p. 329, "Java" (1854), descr. nulla.

Tephrodornis grisola, Blyth: Jerdon, B. of India, i. p. 411. no. 266 (1862); Blyth, Ibis, 1866, p. 367. no. 266.

Pachycephala grisola (Blyth), Sclater, P. Z. S. 1863, p. 217. no. 82, "S.E. Borneo."

Hyloterpe philomela (Müller), Blyth, Append. Mouat, Andaman Isl. p. 360. no. 32 (1863).

Hylocharis philomela, Boie: G. R. Gray, Hand-l. i. p. 389. no. 5911 (1869).

"S. Andaman: March 5, ♀, bill black, iris brown, legs dark slaty; Strait Isl., April 2."

This species has never been fully described. Messrs. Blyth and Jerdon are the only authors who have published any kind of description; and their accounts, unsatisfactory and meagre, relate to the Bengal bird. But Mr. Blyth has recorded the identity of his *T. grisola* with Javan, Pinang, Arakan, and Andaman examples, while Dr. Cabanis, having compared the S.E. Bornean example alluded to by Mr. Sclater (*l. c.*), identified it with Javan examples of *Hyloterpe philomela* (Boie), Temm., in the Berlin museum. This Bornean individual agrees well with several Javan examples, as well as with one from Malacca in my collection. In it the entire head above is ashy brown, the rest of the upper surface of the bird being of a ruddy brown. The throat, cheeks, flanks, abdominal and ventral region silky white slightly sullied on the throat and cheeks with the cinereous hue of the breast, there forming a distinctive band. The bill is black. A single Javan specimen differs materially from the remainder by having the head, cheeks, ear-coverts, back, and uropygium uniform dark ferruginous ash-colour without a tinge of rufous brown, and by the throat and breast being almost uniform in their shade of dark smoky ash-colour, though lighter than above. Neither in structure nor in dimensions can this bird be distinguished from the others; and I must therefore regard it as a sexual or other stage of plumage. Three other Javan individuals differ from the Bornean type by having pale yellowish bills, by the upper surface of their plumage being of a much redder and lighter hue, and by the outer edgings of the quills being bright rufous. These may be young birds. Be that as it may, three very distinct phases of plumage are represented in my Javan series.

The three Andaman specimens obtained by Mr. W. Ramsay have the head above and nape smoky ash-colour, very much like the single Javan bird described above; but the cheeks and ear-coverts are pale grey, nearly white, and not fuliginous. The dorsal plumage has more an olive than a ruddy tinge, and is not fuliginous. Underneath, the colouring agrees with the Bornean bird. These Andaman examples therefore represent a fourth phase of plumage; for I am disinclined, without more acquaintance with the group, and after Mr. Blyth's identifications, to regard them as belonging to a distinct species. The structure and dimensions of all are reconcilable with the suggestion that they belong to one species. Wing 3·25 inches; tail 3.

The generic title *Hylocharis*, as founded on this bird, or at least on the Javan form, has been by Bonaparte (*l. c.*) attributed to Boie, with the date 1827. So also has the specific title *philomela*. I have failed to find any proof in support of this. *Hylocharis* appears to have been first used by Boie, but for a group of the Trochilidæ (Isis, 1831, p. 546). S. Müller (*l. c.*) seems to be the first who used the generic title *Hylocharis* for this Shrike; and as it had been previously employed by Boie, Dr. Cabanis (*l. c.*) altered it to *Hyloterpe*. Mr. G. R. Gray (*l. c.*) retains the title both among the Shrikes and the Humming-birds, and credits Dr. Cabanis with the authorship of *Hylocharis* as well as *Hyloterpe*, an evident misreading of the passage in the 'Archiv.'

85. Zosterops palpebrosa (Temm.), Pl. Col. 293. fig. 3, "Bengale" (1824).

"S. Andaman: March 3, 29, ♀, iris bright red-brown, bill above dark horn-colour, below whitish, legs greenish grey; April 27, ♂, iris light reddish brown, bill slaty brown, legs slaty green; May 5, ♂."

The male obtained in May closely resembles Maunbhoom examples; but the upper plumage has not quite so yellow a tinge, and the frontal feathers are not perhaps as decidedly bright yellow. The dimensions are alike, save those of the bill, which considerably exceed in length that of the continental species. The other examples are darker above, closely resembling the Neilgherry race, but as dark as in *Z. lateralis*. In them the bill also exceeds in length that of the Maunbhoom and other Indian examples.

86. Emberiza pusilla, Pallas, Reise Russ. Reichs, iii. p. 697. no. 20, "Dauria" (1776).

Emberiza sordida, Hodgson, J. A. S. B. 1844, p. 958, "Nipaul," ♀.

Ocyris oinops, Hodgson, P. Z. S. 1845, p. 35, ♂.

"S. Andaman: March 28, ♀, iris dark brown; bill dark horn-colour, lighter below; legs flesh-yellow."

Undistinguishable from Lake Baikal examples.

87. MUNIA FUMIGATA, Walden, Ann. N. H. (4), xii. p. 488, "S. Andaman" (Dec. 1873).

Munia leuconota (Temm.), Ball, Str. Feath. i. p. 79. no. 90, "Andaman" (1873), nec Temm.

"S. Andaman: Feb. 11."

The following Asiatic species constitute, together with this Andaman bird, a well-defined subgroup of the genus *Munia*:—

Uropygium white.

(1.) LOXIA STRIATA, Linn.*, S. N. i. p. 306. no. 37 (1766), ex Briss. Orn. iii. p. 243, "Isle de Bourbon."

Loxia albiventris, Herm. Observ. Zool. p. 205, "Tranquebaria" (1804).

Fringilla leuconota, Temm., Pl. Col. 500. fig. 2, "Bengal" (1830).

Dorsal plumage pale-shafted; abdominal region and flanks pure white.

Ceylon, Peninsular and Central India, Lower Bengal.

(2.) MUNIA ACUTICAUDA, Hodgson, As. Res. xix. p. 153, "Nipaul" (1836).

Munia molucca (Linn.)? Blyth, Cat. Calc. Mus. p. 117. no. 626, nec Linn.

Abdominal plumage white faintly marked with pale brown; middle rectrices elongated.

Nipal, Sikim, Himalayas, Assam, Mergui, Burma, Malacca, Hainan to Shanghai, and westwards to Szechuan, Formosa.

In Malaccan birds the pale brown hastate markings on the abdomen are better defined and much more pronounced.

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* Relying on the short preliminary diagnosis given by Brisson (*l. c.*), I referred (Ibis, 1869, p. 211, note) the Javan species, *M. leucogastroides*, Moore, to *L. striata*, Linn. A renewed study of the Brissonian text has enforced me to alter this opinion. Unless the Island of Bourbon possesses a species of *Munia*, or that of Java a second species, more perfectly agreeing with Brisson's description, it will be most convenient to retain the Linnæan title for the Indian-peninsular form, if we do not reject it altogether.

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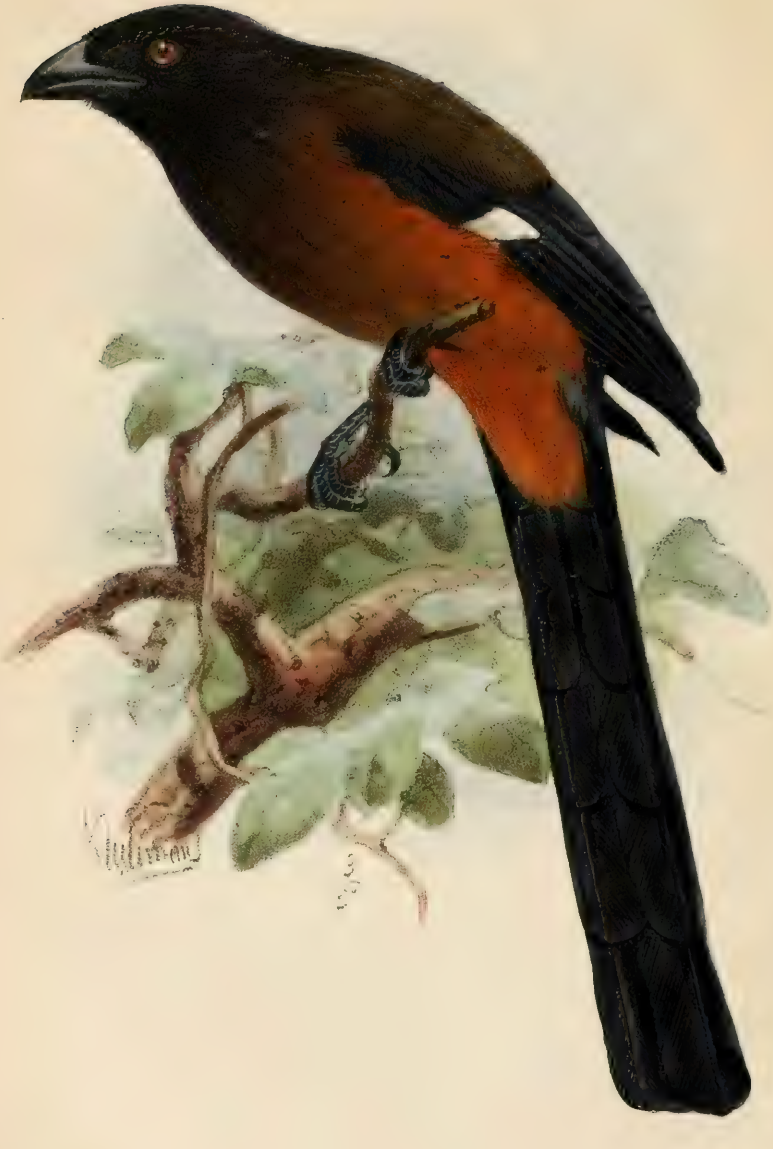

J. G. Keulemans lith.

M & N. Hanhart. imp.

DENDROCITTA BAYLEII

(3.) Munia fumigata, Walden, *ut suprà.*

Dorsal plumage unstriated. More nearly allied to *M. acuticauda* than to *M. striata.*

Uropygium uniform with the back.

(4.) Munia leucogastra, Blyth, J. A. S. B. 1846, p. 286, note, "Malacca."

Munia melanictera (Gm.)? Blyth, Cat. Calc. Mus. p. 117. no. 629, nec Gm.

Dorsal plumage pale-shafted; flanks dark brown; middle rectrices lustrous yellow.

Malacca.

(5.) Munia leucogastroides, Moore, Cat. E. I. C. Mus. ii. p. 510. no. 777, "Java" (1856–58).

Fringilla striata (Linn.), Horsf. Tr. L. S. xiii. p. 161. no. 5, "Java" (1820), nec Linn.

Dorsal plumage unstriated; all the rectrices black; flanks white.

Java.

88. Dendrocitta bayleyi. (Plate VI.)

Dendrocitta baylei, Tytler, J. A. S. B. 1863, p. 88, "Andamans."

Dendrocitta bazlei, Tytler (*lapsu cal.*), Blyth, Ibis, 1863, p. 112.

"S. Andaman: March and April, ♂ ♀, iris bright golden yellow, bill, feet, and legs black."

The female seems to be somewhat smaller, while the plumages are alike.

89. Calornis affinis, A. Hay, J. A. S. B. 1846, p. 36, "Tipperah, Arracan, Nicobars;" v. Pelzeln, Novara Exp. *Aves,* p. 87, "Nicobars" (1865).

Calornis panayensis (Scopoli), Ball, *op. cit.* 1872, p. 285. no. 40, "Andamans."

"South Andaman: Feb. 19, 27, ♂, iris brown, bill, legs, and feet black; March 4, 14; April 10, 24."

A species fairly distinguishable from *C. insidiator* by its greater dimensions and much duller plumage, but identical with continental examples of *C. affinis.*

90. **Squatarola helvetica** (Linn.), S. N. i. p. 250. no. 12 (1766).

"S. Andaman: Feb. 12, legs greenish grey."

In winter plumage.

91. **Glareola orientalis**, Leach, Tr. L. S. xiii. p. 132, pl. 13, "Java."

"S. Andaman: March 9, 10, ♂ ♀, iris dark brown, bill black, red at gape, legs greenish horn-colour; Cocos Isl., April 5."

92. **Dromas ardeola**, Paykull, Sv. Ak. Handl. 1805, p. 108, pl. 8.

"Macpherson Strait, Andamans: March 4, ♂, legs pale bluish slate, bill black. S. Andaman: March 12, ♂, iris dark brown, legs pale slaty blue, bill black."

"Andaman: June 25." (*Wimberley*).

Two examples, shot on March 4, have the feathers of the occiput and nape brown-centred; those of the interscapular region and the primaries dark brown, rather than black, mixed with grey. The lengthened tertiaries are ashy rather than white. A third has the head pure white and the black plumage as in full dress; but the tertiaries are tinged with ashy. The birds killed on the 12th are in full black-and-white plumage. The example, however, obtained on June 25 is in immature plumage.

93. ? **Hypotænidia striata** (Linn.), S. N. i. p. 263 (1766).

Rallus striatus, Linn. (?), Ball, J. A. S. B. 1872, p. 288. no. 57.

"S. Andaman: April 25, ♀, bill pinkish plum-colour, tip and culmen slate-colour, iris red, legs dull pinkish buff; May 5, ♂, bill purplish lake, tip and culmen slaty brown, iris red, legs pinkish buff."

The crown of the head only is dark chestnut-brown in the specimen noted as being of a female (*conf.* Ball, *l. c.*).

The type of the Linnæan species was obtained in the Philippines; and until Indian and Malayan are compared with Philippine examples their identity must remain in doubt. These Andaman individuals differ from the continental and Malayan form by being of a much darker iron-grey underneath, by the olive parts of the upper plumage being darker, and the chestnut of the head and nape of a deeper shade, almost brown on the crown. It may be that they belong to true *H. striata*; but if it should prove otherwise, I propose for this Andaman race the title of *H. ferrea.*

94. Erythra phœnicura (Forster), Zool. Ind. p. 19, pl. 9, "Ceylon" (1781).

"S. Andaman: March 10, April 4, ♀, iris reddish brown, legs greenish yellow, bill pale green, red at base of upper mandible; May 7, ♀."

95. Totanus calidris (Linn.), S. N. i. p. 252. no. 19 (1766).

"S. Andaman: Feb. 20, ♀, iris brown, legs and feet dull orange red, base of lower mandible red."

"Port Blair, South Andaman: May 31, July 12." (*Wimberley*).

96. Tringa subarquata (Güldenst.), Nov. Com. Petr. xix. p. 471, pl. 13 (1775).

"S. Andaman: March 22, ♂, legs and feet greenish black."

97. Tringa crassirostris, Schlegel, Faun. Jap. *Aves*, p. 107, pl. 64, "Japan, Java, Borneo" (1846).

Schœniclus magnus, Gould, P. Z. S. 1848, p. 39, "Australia;" Birds of Australia, vi. pl. 33.

Tringa magna (Gould), Bp. C. R. xliii. p. 596. no. 211 (1856).

Tringa tenuirostris (Horsf.), Swinhoe, P. Z. S. 1863, p. 315. no. 298; *op. cit.* 1871, p. 408. n. 560.

Tringa tenuirostris (Horsf.), Gould, Handbook B. of Australia, ii. p. 260, sp. 520 (1865); G. R. Gray, Handbook, iii. p. 49. no. 10302 (1871).

"S. Andaman: March 14, ♀, iris dark brown, bill black, legs greenish brown."

Both Professor Schlegel (M. Pays-Bas, *Scolopaces*, p. 28) and Mr. Harting (*in epist.*) are of opinion that *Totanus tenuirostris*, Horsf. Tr. L. S. xiii. p. 192, "Java," refers to *Totanus stagnatilis*, Bechstein, and not to this bird. Mr. Harting most justly observes that Horsfield (*l. c.*), having classed the Javan bird under the genus *Totanus*, would never have used the expression "the beak is more slender than in the European species of this genus" if he had been describing from an example of *Tringa crassirostris.*

98. ARDEA PURPUREA, Linn. S. N. i. p. 23. no. 10 (1766). "Port Blair, S. Andaman." (*Wimberley*).

99. HERODIAS INTERMEDIA (Wagler), Isis, 1829, p. 659, "Java."

*Ardea egrettoides**, Temm. Man. d'Orn. iv. p. 374, "Sicile," *errore* (1840); Faun. Jap. *Aves*, p. 115, pl. 69, "Japan, Java" (184–); Jerdon, Birds of India, iii. p. 745. no. 926 (1864).

"S. Andaman: Feb. 28, ♂, iris yellow, orbital skin bright yellow, bill dark yellow, legs greenish black."

The type of this Egret was sent to Leyden by Von Hasselt from Java, with the manuscript name of *Ardea intermedia.* Wagler, however, was the first to describe the species and publish the title (*l. c.*).

100. HERODIAS GARZETTA (Linn.), S. N. i. p. 237. no. 13 (1766).

Ardea nigripes, Temm. Man. d'Ornith. iv. p. 376, "L'Inde et les îles Sondaïques, la Nouvelle Guinée."

"S. Andaman: Dec. 17, ♂, iris yellow, feet green, legs and bill black, skin at base of bill yellow."

This is the true *A. nigripes*, Temm., and also of Bonaparte (Consp. ii. p. 119. no. 3), but not *A. nigripes,* Temm. apud Bp. *tom. cit.* p. 116 (*conf.* Schlegel, Mus. P.-Bas, *Ardeæ,* pp. 14 & 19).

101. ARDEOLA GRAYI (Sykes), P. Z. S. 1832, p. 158. no. 176, "Dukhun."

Ardeola leucoptera (Bodd.), Jerdon, Birds of India, iii. p. 751. no. 930.

"S. Andaman: March 10, ♂, iris pale yellow, bill orange-yellow, legs pale green; April 24, ♀."

In non-breeding-plumage. I have adopted the title referable to the continental species on the assumption that the Andaman bird belongs to it, and not to either the Malaccan form (the true *A. leucoptera*) or to that of Java (*A. speciosa*).

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* Not of S. G. Gmelin, Reise, ii. p. 193, pl. 25, which is a synonym of *Ardea alba,* Linn.

102. Nettapus coromandelianus (Gm.), S. N. i. p. 522. no. 90 (1788).

"S. Andaman: Feb. 10, iris undistinguishable, apparently red, upper mandible black, lower yellow horn-colour, legs and feet greenish plumbeous tinged with yellow."

"Port Blair, S. Andaman: July 28, ♂ ♀." (*Wimberley*).

The two examples obtained by Capt. Wimberley are adult. The one shot by Mr. W. Ramsay is an immature bird.

103. Sterna paradisea, Brünnich, Ornith. Borealis, p. 46, "Christiania" (1764).

"Port Blair: May 20, 24; July 28, 30." (*Wimberley*).

One example (May 20) in perfect plumage; lower surface deeply suffused with a rosy salmon tint; outer pair of rectrices exceed the middle pair by 3½ inches; the white edging of the inner margin of the primaries runs round their extremities; the bill is black, except at the gape, where it is orange-red. All the examples shot in May have bills similarly coloured, excepting one, which has the basal half pale reddish yellow and the remainder brown. One shot in July has the entire bill pale yellow.

Mr. Howard Saunders, who has kindly identified this Andaman Tern, informs me that it is absolutely identical with English, American, Spanish, and African specimens.

104. Onychoprion melanauchen (Temm.), Pl. Col. 247, "Celebes" (1827).

"S. Andaman: April 9, May 8, 9, 11, ♂ ♀, iris hair-brown, bill black, legs pinkish brown."

"S. Andaman: May 20, 24; July 30." (*Wimberley*).

Full series were obtained by both Mr. W. Ramsay and by Captain Wimberley. They are all in perfect dress, and exhibit a delicate roseate hue on their lower plumage.

105. Onychoprion anasthætus (Scopoli), Del. Fl. Faun. Insubr. ii. p. 92. no. 72 (1786), ex Sonnerat.

"S. Andaman: March 12, ♀."

XVIII.—*On some Birds from Hakodadi, in Northern Japan.*

By R. Swinhoe.

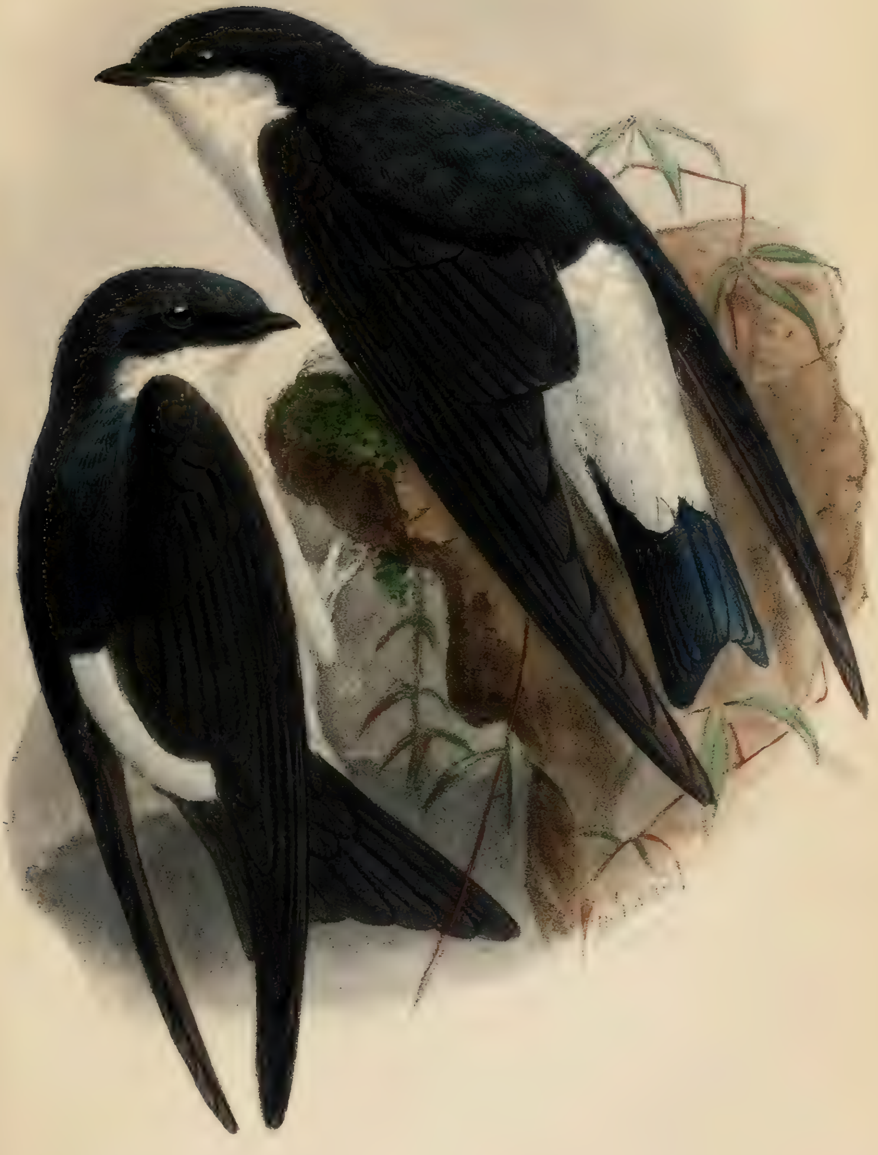
(Plate VII.)

Mr. Thomas Blakiston, resident in Hakodadi, the port of Yesso, the most northern island of the Japanese group, with the help of a Japanese gentleman, Mr. Fukusi Goro, in the service of the Japanese Government, has again been collecting the birds of Northern Japan, and has sent me a fine series, which I have carefully studied and compared, and will now enumerate, with remarks.

With the Japanese birds are included two skins marked as coming from Gheyinsk, at the head of an inlet in the north of the Sea of Ochotsk. Of these one is a fine adult of the Aleutian Islands' Sea Eagle, *Haliaetus pelagicus* (Pall.), and the other a male Amoorland Capercailzie, *Tetrao urogalloides*, Midd. Both were probably procured from some Russian vessel from the north; and that is the only way I can account for the Dutch "voyageurs" of the 'Fauna Japonica' finding the monster Sea-Eagle at Nagasaki.

1. Black-eared Kite. *Milvus melanotis*, T. & S.

A very rufous male shot in March, and nearly as bright-coloured as the plate of the adult female in the 'Fauna Japonica.' This rufescence is, I presume, accidental—though, out of a large series from various parts of China, from Canton to Pekin, I have not one so coloured. In these the occiput and axillaries often show reddish feathers; but in the Hakodadi specimen the head and neck, back, axillaries, and breast are all reddish. I was at first disposed to think that we had in this a distinct species, corresponding to the red figure in the 'Fauna Japonica,' which has long been a stumbling-block to me; but I cannot find any distinction of form to warrant such a belief. The other figure in the 'Fauna Japonica,' that of a male, presents the appearance of the bird that ranges along the China coast. The birds I procured in Hainan are much smaller and darker, with larger bill, and less white on the under quills. These I take to be the typical *M.*



J. G. Keulemans. lith.

M & N Hanhart imp.

1. CHELIDON BLAKISTONI.
2. CHELIDON WHITELYI.

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govinda, Sykes. Our ordinary bird will probably be the *M. major* of Hume.

2. Small Chimney-Swallow. *Hirundo gutturalis,* Scop.

Two males, both shot in May. One is evidently an older bird than the other, with the white tail-spots larger, and with the underparts tinged with pink. They are of precisely the same species that summers everywhere along the China coast.

3. Black-chinned Martin. *Chelidon blakistoni.* (Plate VII. fig. 1.)

Chelidon blakistoni, Swinhoe, P. Z. S. 1862, p. 320; Ibis, 1863, p. 90.

A male specimen, shot at Hakodadi in May, has been sent, which entirely agrees with the typical male procured before in July, except as regards the under tail-coverts, which are brownish at tips in the present skin, instead of black as in the former one. They may heighten in colour as the bird gets older.

This Black-chinned Martin has a near ally in the smaller *Delichon nipalensis,* Hodgs., of Nepaul, and also, indeed, in the *Hirundo dasypus,* Bonap., of Borneo; but in the description of the latter (Consp. Av. p. 343) no mention is made of the black chin.

Blakiston, in his letter to me under date 4 Aug. 1873, says, "shot nine specimens yesterday, not yet skinned, measure 5 to 5¼ and 4 to 4½; builds against overhanging cliffs." This bird has not turned up in China on its southward migration, and very possibly, with *Sturnia pyrrhogenys,* and probably other species, goes direct south to the Philippines to pass the winter, if, indeed, it does not extend to Borneo, and prove to be identical with *H. dasypus* mentioned above*.

To contrast with the bird from Japan the acting editor has kindly consented to figure the species from North China on the same plate (Pl. VII. fig. 2). The characters of this are its small size, and *white upper tail-coverts*. The latter, which it has in common with no other species, suffices to convince me that our bird is not the *C. cashmiriensis*, Gould, which it resembles in many respects. As was to be expected, ours proves to be the Martin that visits Siberia in summer, and is minutely described by Pallas (Zoogr. Rosso-Asiat. p. 533) as *Hirundo lagopoda*, in the belief that, from the difference in structure of its nest, the Siberian bird ought to be thoroughly compared with the European. I named the Chinese bird *C. whitelyi* in P. Z. S. 1862, p. 320; but I have only to quote from Pallas's description of the Daurian bird the following to show that it is the same as ours:—"Subtus avis tota nivei candoris; subcaudales, itemque dorsum posticum, uropygium *tectricesque caudæ* niveæ, rhachibus plumarum tenuissime fuscis, in quibusdam vix conspicue."

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* I wrote and requested Mr. Gustav Schlegel, of Batavia, who is now residing with his father, Dr. H. Schlegel, at Leiden, to examine the specimens of *Hirundo dasypus* for me. He reports that the Leiden museum has two skins from Borneo, which look like those of young birds, that they both have black on the chins and are dingy on the under parts. This strengthens my supposition that the Borneo bird may be the same as that from North Japan.

Mr. Fleming's specimen from near Pekin (figured in the plate) is the only one of this species from China that I have ever handled; and the only time I ever *saw* the bird alive was on the 8th April, 1869, when, on some hills near the river Yangtsze, about 1000 miles up its course, a pair of white-rumped Martins flew about over the heads of our party, in company with many Daurian and a few Common Swallows.

4. King of the Shrimps. *Alcedo bengalensis*, Gmel.

A young male, with both mandibles of bill blackish and the breast-feathers tipped with dull bluish green.

5. European Nuthatch. *Sitta europæa*, L.

The species with white underparts. A specimen shot in March.

6. Tree-creeper. *Certhia familiaris*, L.

The pale race of Amoorland, with a large whitish spot on each feather of the crown and back. A specimen shot in February.

7. Japanese Wren. *Troglodytes fumigatus*, Temm. Man. d'Orn. vol. iii. p. 161.

Bonaparte, in his Conspectus, p. 222, puts this species after *T. europæus,* and refers to it as "*coloribus obscurioribus vix distinctus*!" He must either have had a bad specimen to judge from, or he must have made a very hurried comparison between the two species. Blakiston has sent a male shot in February; and I have a mutilated skin, without label, received from Mr. Collingwood. The species has a comparatively long tail, and comes nearer to some of the American Wrens than to the European species*. It is of a rich reddish brown on the upper parts, wings, and tail, browner on the head and hind neck; the back, rump, wings, and tail are banded with blackish brown; the 2nd to the 5th quills (remiges) having whitish spots on the outer web. The underparts are lighter brown, mottled on the breast and belly with black, and barred on the under tail-coverts, which are tipped with white; under wing-coverts and belly mottled with white. Total length about 4·3 inches; wing 2·1, 3rd and 4th quills equal and longest; tail 1·45, the outer feather ·23 shorter than centrals.

8. EASTERN REED-THRUSH. *Calamoherpe orientalis* (T.&S.).

A male shot in May, with red rictus, whitish throat, and indications of streaks on the breast.

9. KAMTSCHATKAN GRASSHOPPER-LARK. *Locustella subcerthiola,* sp. nov.

Blakiston has now sent the same specimen which in 1863 I thought to be a pale *L. ochotensis.* The bird, however, was not compared, and my identification was from memory (see Ibis, 1863, p. 98). I have recived from Dr. v. Schrenck at St. Petersburg two skins from Kamtschatka, marked *L. certhiola,* that tally with Blakiston's bird. Von Schrenck found the true *L. certhiola* in Amoorland; for he speaks of it in his travels in that country, and notes its resemblance to *L. ochotensis,* from which, he observes, it differs chiefly in wanting the golden of the underparts. I must not, however, blame the Russian ornithologists for misnaming this bird, as I was myself guilty of a similar mistake. With specimens before one the mistake could never occur; for the present bird is large and pale. I will describe it as the

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* [Mr. Swinhoe's skin seems scarcely separable from the Winter-Wren of North America, *Troglodytes hyemalis,* or at all events from the var. *alascensis* of Prof. Baird (Trans. Chicago Acad. 1869, p. 315). As this form of Wren, according to Mr. Dall (Proc. California Acad. March 14, 1871), is a resident throughout the Aleutian Isles, and everywhere there "very abundant and tame," we can easily understand its occurrence in Japan.— P. L. S.]

LOCUSTELLA SUBCERTHIOLA, sp. nov.

Form robust; in colour *Calamoherpine,* but in respect of wings, tail, and legs *Locustelline;* wing with the 1st quill spurious, 2nd notched on its inner web within half an inch of its tip, 3rd the longest; tail much graduated, tipped with whitish.

Length about 6 inches; wing 2·7; tail 2·3, outer feather ·68 shorter than centrals.

Above olive-grey, washed with yellowish brown on the back and margins to feathers of wings, more richly on the rump and margins of tail-feathers. Feathers of the crown and back obscurely centred with brown. Wings brown, the 1st quill white on its outer web for the greater part of its length; tail yellower, with faint bars. Throat, belly, and axillaries nearly white; sides of neck, breast, flanks, tibials, and under tail-coverts ochreous olive-grey, deeper on the last and on the sides of the body beneath the wings. Bill of specimen brown on upper mandible, yellowish on lower; legs of ditto light yellowish brown.

I have not yet met this species in China; and it is possible it may migrate through Hakodadi to Kamtschatka, more to the eastward, coming probably from the Philippines.

10. BLACK-EYEBROWED REED-WREN. *Calamodyta maackii,* V. Schrenck.

Blakiston's collection contains a veritable specimen of my *C. bistrigiceps* (P. Z. S. 1871, p. 353), which confirms my suspicions that my bird is no other than Von Schrenck's *Salicaria* (*Calamodyta*) *maackii* (Amurland, i. p. 370, pl. xii. fig. 4–6). I have only procured it at Amoy; but Père David has it from Peking.

11. SCALY-HEADED GRASS-WREN. *Tribura squameiceps*, Swinh. P. Z. S. 1863, p. 292.

A female from Hakodadi shot in May, answering to my type specimen in colour and form. It has a nearly complete tail, which is only an inch long, the rectrices narrow and somewhat pointed, of a reddish olive-brown, the same colour as the wings; outer rectrix ·15 shorter than centrals; under tail-coverts ·3 shorter than central rectrices. The short tail shows this species to be an abnormal Reed-Wren; but as I have placed it in the genus *Tribura*, I shall leave it there until I find one better adapted. I am by no means confident as to its position. I described it originally from a tailless specimen procured by Captain Blakiston at Canton; I got it again later in Formosa (Ibis, 1866, p. 397), but also imperfect about the tail. The Hakodadi bird is the third specimen that I have seen; and would prove, I should think, that it is a migratory species, resorting to the north in summer. I took the following note on the Japanese bird:—"Bill ·4, to gape ·53; tarse ·7. Bill blackish brown, greenish yellow at gape and on the *tomia* at base. Legs, claws, and nails very pale."

12. INDIAN STONECHAT. *Pratincola indica*, Blyth.

A pair, both shot in April, agreeing with Chinese specimens. The male is very black above, and has the rich breast-band confined to the breast.

13. COLE-TIT. *Parus ater*, L.

One shot in March and another in October. These appear to be the true European bird, though one has some of the occipital feathers a little lengthened, perhaps not more than in specimens I have seen from Sweden. The form found near Peking is recognizable by its lengthened occipital feathers forming a decided crest over the white nape-spot. Père David has named it *Parus pekinensis* (Ibis, 1870, p. 155).

14. JAPANESE MOUSE-BIRD. *Parus varius*, T. & S.

A male, shot in April. The Japanese delight in keeping this as a cage-bird, two or three together; each cage supplied with a small box with a hole in front for entrance. The birds sleep in the box during the night, and frequently run in and out during the day. The little captives have no song; but they amuse by their incessant activity, and by the Tit-like habit they are fond of exhibiting of holding a seed firmly between their feet while they hammer on it with the bill until it breaks. They are often brought in cages from Japan to China.

15. LESSER OX-EYE. *Parus minor,* T. & S.

A male, from Hakodadi, of February. This has the second tail-feather only tipped with white; but the amount of white on this feather varies. I have one specimen from China (Tingchow) in which the second feather on one side of the tail has very much more white than the corresponding feather on the other side.

16. NORTHERN MARSH-TIT. *Parus borealis,* Selys.

Blakiston's specimen was shot in January; and I have one of Whitely's from Hakodadi, shot in December. They both have the black extending down the hind neck, with a whitish margin, the light back, and whitish edging to secondary wing-quills that distinguish the northern form from the true Marsh-Tit. It is curious, however, that about Peking we get the true *Parus palustris,* L., which I carelessly identified before with *P. kamtschatkensis,* Bp. (This last I now take to be the same as my *Pœcile baicalensis,* Ann. N. H. ser. 4, vol. vii. p. 257, 1871.) The Russian ornithologists only record *P. borealis* from Siberia; but it is very certain that both forms must come across the Asiatic continent; for if we take it for granted that *P. borealis* has been developed out of *P. palustris,* we could scarcely expect a reversal of the process.

17. BOTTLE-TIT. *Acredula caudata* (Linn.).

The white-headed European species, which I have also from Amoorland, from Von Schrenck. *O. trivirgatus,* like our English form, occurs in South Japan.

18. JAPANESE PIED WAGTAIL. *Motacilla japonica,* Swinh.

Mr. Blakiston has sent five of this species, three of which he has presented to me; let us mark them for convenience' sake A, B, C. A is a female shot in April, and at first glance might easily be taken for the grey-backed *M. ocularis* of

China; but on close examination it is found to have a broader eye-streak, the black more advanced on the forehead and extending further down the hind neck, and the back dingier and daubed with black. B is a male of May; the back is almost entirely black, and the sides of the neck black in part. C is a female killed in March, and is in full breeding-plumage. The head, neck, and back are entirely black, except the forehead, eyebrow, and chin, which are white. It is the fullest plumage I have yet seen, and quite equals the figure in the 'Fauna Japonica.' This bird I take to be quite adult, and already in breeding-trim; while the other two were probably birds of the previous year, the male (as usual in this class) having acquired his dress earlier than the female.

19. Eastern Grey Wagtail. *Calobates melanops* (Pall.).

Two specimens shot in April, and both marked females. One, however, has the black throat of the male, and must be of that sex. They are of the bright short-tailed race that prevails on the coast of China.

20. Brown Thrush. *Turdus fuscatus*, Pall.

A female of the past year, shot in March.

21. Blue and Red Rock-Thrush. *Monticola solitarius* (P. L. S. Müll.).

A pair of adult birds, both shot in May, and therefore in breeding-plumage. The female is like the female of the China bird; buff washed grey on the underparts, each feather with a crescentic bar of blackish; upper parts blackish grey washed with blue, which brightens on the scapulars and rump, most feathers having a crescentic bar of blackish; wings and tail blackish brown, the former edged paler. The male has lost all his mottlings. His upper parts, throat, and breast are of a fine silvery blue, which also margins the feathers of his black wings and tail. His axillaries, belly, and vent are of a rich chestnut-red. In my goodly series from China and Formosa, a few of which were also shot in May and are free from mottlings, I have not one of such bright tints as the Japanese bird. I must state that I cannot agree with Messrs. Sharpe and Dresser's conclusions (see their 'Birds of Europe') as to the full plumage of either sex of this species. None of my many females favour the idea of the dress of this sex developing eventually into that of the male, though this may occasionally happen, as with many species of birds. The ordinary plumage of the female is as described above. There is also nothing in my series of skins (on which the aforesaid gentlemen based their remarks) to convince me that the male loses with age the red of the underparts. I would rather believe, with Mr. Blyth, that the South-China bird is intermediate, like the Burmese bird (*M. affinis*), and is inconstant as to the amount of the red on the underparts. In its upper plumage the blue is duller than in the Hakodadi bird, as I have already stated. The Formosan bird is nearly as dull in its blue as the Amoy specimens; but the underparts are nearly always red throughout. I would preserve the name *M. affinis* for the Chinese bird, and let the Formosan form rank as an outlier of the true insular *M. solitarius*, of which I take the Japanese form to be a typical illustration.

22. BROWN-EARED BULBUL. *Hypsipetes amaurotis* (Temm.).

A female of February. To compare with this I have an unsexed bird from Nagasaki (South Japan). The Hakodadi specimen is larger, has a shorter bill, longer wings, and larger tail, but does not differ in coloration. The describer of this species found affinity for it in the American Mocking Thrushes; but there can be now no doubt that it has its true allies in the Asiatic Tree-Bulbuls (*Hypsipetes*), a conspecies having turned up lately at Ningpo, in China.

23. WAXWING. *Ampelis garrula*, L.

Two specimens, date and sex unmarked. One is smaller than the other, has six wax tips, and a narrow tail-band, and answers to the figure in Yarrell's 'British Birds,' p. 413. The other is a much finer bird, has seven large wax tips, a broad golden tail-tip, and white margins to the end of the inner web of each primary quill, in addition to the terminal edge of the outer web. This last, in the three main outer feathers, is white, in the rest that succeed a fine golden. This seems to be the *common* species in Japan as in China.

24. Small Grey Flycatcher. *Butalis latirostris* (Raffles).

A male shot in May. It is precisely the same as the bird that passes up and down the China coast on its vernal and autumnal migrations.

25. Narcissus Flycatcher. *Xanthopygia narcissina* (T. & S.).

A male procured in May. This species is very abundant in South China during its migrations, but passes away in a few days. The summer visitant at Ningpo and northwards in China is the white-eyebrowed species, *X. tricolor,* (Hartl.), with the yellow-rumped female, which stays and breeds. The present species with the yellow eyebrow, and the female with whole-coloured back (*Muscicapa hylocharis,* Faun. Japon.), we know, summers in Japan—I think, in the Corea also.

26. Carrion-Crow. *Corvus corone,* L.

The specimen shot is a male, shot in May. Its large size made me at first rather doubtful as to its species; but Mr. Sclater, who kindly undertook to compare the specimen, confirms me in the present identification. It measures about 20¼ inches in length, wing 14½, tail 8½, tarse in front 2·2.

Mr. W. Whitely brought home from Hakodadi a female, shot on the 22nd October, of the same Crow. The occurrence of this he neglected to insert in the list of birds from North Japan that he published in 'The Ibis.' I have since procured his specimen. It measures only 12½ in the wing, with a tail of 8 inches, the outer rectrix being one inch shorter than the centrals; tarse in front 2 inches.

This species has not occurred in China from the island of Hainan to Peking, except at the small island of Narchow, near Hainan; its place in China, Hainan, and Formosa, so far as yet explored, being found to be occupied by the large-billed, green-glossed *Corvus sinensis* of Gould.

27. Greyish Starling. *Sturnus cineraceus,* Temm.

A male shot in April, and a female in May. Identical with the bird found in China.

28. Red-cheeked Small Starling. *Sturnia pyrrhogenys* (T. & S.).

Male and female procured in May, and in fine breeding-plumage. They are marked, chiefly about the rump and vent, with the ochreous rufescence that adorns this small group at this season. I have procured this same species from Manilla (*Calornis albifrons,* Blyth); and it doubtless winters in the Philippines. I have never seen it on the China coast.

29. MOUNTAIN-FINCH. *Fringilla montifringilla,* L.

A female in February.

30. JAPANESE GOLDENWING. *Chlorospiza kawarahiba* (Temm.).

A full-plumaged male of May, and a young male of September. I have not seen this species in China. Our allied *C. sinica* (L.) is larger in North China than in South. My Peking specimen is very much larger than those from Amoy; but a Ningpo specimen is decidedly intermediate.

31. JAPANESE HAWFINCH. *Coccothraustes japonicus,* Bp.

A male and female without date.

32. MEALY REDPOLE. *Aegiothus borealis* (Temm.).

Of this species I have received from Hakodadi a male shot in March, and two females, one shot in January, and the other in March. They agree with specimens procured in England. The male has a fine red breast, and some red on its throat, cheeks, and rump. The January female has the forehead of a yellower red than the March bird of the same sex. I have a fine blushing male from Peking, presented by Père David.

33. LESSER REDPOLE. *Ægiothus linaria* (L.).

A male of February, with merely a tinge of pink on the cheeks, throat, breast, and rump. This species is easily distinguished from the last by its smaller size, by having less white on the rump, and scarcely any edging to its tail-feathers. The Hakodadi skin agrees with home-shot specimens.

34. LONG-TAILED ROSE FINCH. *Uragus sanguinolentus* (Temm.).

A male of March, and a female of February. A fine species, and very distinct from *U. sibiricus* of North-East Asia.

35. EASTERN BULLFINCH. *Pyrrhula orientalis.*

A male and female without date.

36. MASKED BUNTING. *Emberiza personata*, T. & S.

A male of May. This is the first of this species that I have handled; and I recognize at once its distinctness from the common winter Bunting of China. Out of forty-five specimens of the last in my collection from Shanghai and southwards there is not one that can be assigned to this species. The Chinese bird is the *E. spodocephala*, Pall., of North-Eastern Asia.

37. PAINTED BUNTING. *Emberiza fucata*, Pall.

A May male. This species is found all over South China in winter.

38. JAPANESE MEADOW-BUNTING. *Emberiza ciopsis*, Bp.

This is also the first I have seen of this species. It is at once to be distinguished from the resident form of the northern half of China by its larger size and *black* instead of *chestnut* ear-coverts. I named the Chinese bird after Dr. Henry Giglioli (see Ibis, 1867, p. 393); but I now find that it agrees with Pallas's description of *E. cia* (Zoogr. Rosso-Asiat.), which name, having been before applied to the European Meadow-Bunting, Professor Brandt changed to *E. cioides*. This last, then, will be the name of the Chinese bird, unless, indeed, Scopoli's name, *E. barbata*, applies to the same species.

39. COUNTRY BUNTING. *Emberiza rustica*, Pall.

A fine male of this species in full breeding-plumage.

40. BLACK-HOODED REED-BUNTING. *Schœnicola yessoënsis*, Blakiston, n. sp.

This is decidedly distinct from *S. minor*, i. e. *S. pallasi*, or any other form of Reed-Bunting with which I am acquainted. It was described by Blakiston originally under the above name, which would have been published (Ibis, 1863, p. 99) had I not told him that I recognized *S. minor* in his much-worn specimen. The skin he has now sent is that of a male in fine plumage shot in April, and shows the upper parts tinted with bright chestnut, and the central rectrices greyish brown. It answers in other respects to Blakiston's description (*l. c.*). From our winter Chinese visitor it may be at once recognized by its larger bill, by the black hood being confined to the circumference of the head and not descending at all on to the breast, by the absence of white on the nape, and by the rufescence of the upper parts. Blakiston remarks, "it arrives early and inhabits meadows." Where does this species go for its winter? Does it also wander to the Philippines?

41. JAPANESE LARK. *Alauda japonica,* T. & S.

A male shot in March. This has more the bill of the Woodlark, *A. arborea,* the gonys of the under mandible descending near the tip. It is otherwise in appearance like the Skylark, *A. arvensis,* but is smaller, with shorter wing, and with more black on the back, and has the tail-feathers narrowing towards their tips, the inner web of the 1st rectrix having a blackish margin for about one half the length of the feather, the 3rd rectrix having the inner web without any white at its tip; and it has a much darker foot. Blakiston writes of the bird, "not a Tree-Lark, as you supposed."

42. EASTERN WRYNECK. *Yunx japonica,* Bp.

A male, shot in May, of the same small race that visits South China in winter.

43. EASTERN TURTLE DOVE. *Turtur gelastes* (Temm.).

A female shot in April, and precisely identical with the Dove that breeds in the northern half of China and visits the south during winter.

44. EASTERN GOLDEN PLOVER. *Charadrius fulvus,* Lath.

A female procured in May, only in partial summer-plumage.

45. HARTING'S SAND-PLOVER. *Ægialites placidus* (G. R. Gray*).

A male and female, both of April. The female is larger than the male, with less black on the forehead, and a less perfect neck-ring. She is rather smaller, and has a shorter bill than a female procured by myself on the Yangtze in May; but she has more of the summer black about her forehead and neck. The male is also smaller than a May Yangtze male, has a shorter back, smaller legs, and a wing ·5 less long. It is also in more mature plumage. The differences between the Hakodadi and Yangtze birds are conspicuous; but the markings and main characters proclaim them of one species.

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* *Cf.* Ibis, 1873, p. 326.

46. Grey Sandpiper. *Totanus incanus,* Vieill.

A pair shot in May. The female is rather larger, has a longer wing, and is less waved across the breast and belly. They are both in summer-plumage.

47. Wood-Sandpiper. *Totanus glareola,* L.

A May male.

48. Common Sandpiper. *Tringoides hypoleucus* (L.).

A female shot in April, and a male in May.

49. Australian Great Snipe. *Gallinago australis.*

A fine male shot in May. It is of large size, and has the eight central tail-feathers of ordinary scolopaceous form and colour; besides these there are five peculiar ones on each side, the two outer of which are very narrow and whiter. The species only occurs in Hakodadi in spring and autumn, like the spring Snipe, *G. megala,* in China. Blakiston notes that "spring specimens are less rufous than those shot in August."

50. Common Snipe. *Gallinago scolopacina,* Bp.

A male shot in May. Blakiston remarks, "my measurements are $10\frac{1}{8}$ to $10\frac{5}{8} \times 5$ to $5\frac{1}{4}$."

51. Red-breasted Rail. *Porzana erythrothorax,* T. & S.

A male shot in June.

52. Indian Water-Rail. *Rallus indicus,* Blyth.

A male and female, shot in May, agree with our Chinese form with the dark mark through the eye. The male is larger and has a larger bill than the female.

53. Eared Grebe. *Podiceps nigricollis,* Gmel.

One in winter plumage, and one marked male, in April, in full spring dress. This small species is recognizable in any plumage by its upturned bill.

54. Red-throated Diver. *Colymbus septentrionalis,* L.

A female in immature plumage, without date.

55. Yellow-nibbed Wild Duck. *Anas zonorhyncha*, Swinh.

A male specimen, just like the China bird. Blakiston writes, "I have another, with broader bill, and more like a female Mallard. There is no doubt about the species; but does it breed with the Mallard?"

56. Falcated Teal. *Eunetta falcata* (Pall.).

A male in full plumage.

57. Common Cormorant. *Phalacrocorax carbo* (L.).

An adult in spring plumage, and an immature bird; both without date and sex.

58. Resplendent Shag. *Phalacrocorax pelagicus* (Pall.).

Phalacrocorax æolus, Swinh. Ibis, 1867, p. 395.

Two immature birds without date—one marked a female, the other unmarked. These specimens, which look very like the figure of the young *Carbo bicristatus* in the 'Fauna Japonica' (t. lxxxiv. b), I recognize, by their straight cylindrical bills and the proportions of their wing-quills, to belong to the allied form, my *æolus*, which Pallas long ago separated as *G. pelagicus* (Zoogr. Rosso-Asiat. tom. ii. p. 303). In Chefoo I met with the species in breeding-plumage, and could then easily distinguish the birds by their bare face-skin being *rubro-papillose*, as Pallas describes it. But perhaps a more telling character is the proportions of the quills in the one species as compared with those in the other. *P. pelagicus* has the 2nd, 3rd, and 4th primary quills equal and longest; while in *P. bicristatus* the 3rd alone is the longest. In *P. bicristatus* too, the face-skin is smooth and yellowish, and the bill is slightly inclined to turn up. *P. tenuirostris*, Temm., from Japan, given in Mr. G. R. Gray's 'Hand-List,' is probably synonymous with Pallas's *P. pelagicus*, which, strangely enough, Mr. G. R. Gray identifies with the better-known *P. bicristatus*, Pallas.

59. Black-tailed Gull. *Larus crassirostris*, Vieill.

An adult without sex or date marked. Mr. Howard Saunders, who makes a special study of this group, has examined and compared these Gulls from Japan, and confirms me in my identification of them.

60. Larger Common Gull. *Larus niveus,* Pall.

An adult female without date. Mr. Saunders thinks that this is only a larger race of the Common Gull, *L. canus.*

61. Great Black-backed Gull. *Larus marinus,* L.

A fine male without date. This species is not mentioned in any of the Russian works that I have access to as occurring in these seas; nor do the Americans know it from the Pacific side of their continent. Pallas notes that he never received the species from Siberia. He further states that its bill is as in *L. cachinnans,* and he wonders whether they are really distinct. This, I should think, would imply that the name *L. cachinnans* is referable to the large Herring-Gull of these seas, which we at present call either *L. occidentalis,* Aud., or *L. borealis,* Brandt, and not to the smaller bird like *L. argentatus,* but with a darker back, which Schlegel unites with that species.

62. The Burgomaster. *Larus glaucus,* L.

An adult female shot in March.

63. Large Grey-winged Gull. *Larus glaucescens,* Brandt.

An adult male and a male in change from the immature. Both without date.

64. Laughing Hooded Gull. *Chroicocephalus ridibundus* (L.).

There are three specimens of this :—a female shot in May, with a well-developed hood; a male shot in April, without hood; and a female shot 20th April, with many immature markings still showing on the upper plumage.

65. Flesh-billed Black Albatross. *Diomedea derogata,* Swinh. P. Z. S. 1873, p. 786.

A bird of this species marked male, and dated July. A few of this species occurred at Chefoo, North China, in June. All I procured were also males; and I described the bird in the P. Z. S. of last December. In the figure of this species in the

'Fauna Japonica' (there given as the young of *D. brachyura*, t. lxxxvii.) the bill is not coloured sufficiently dingy, nor the legs sufficiently black.

66. RHINOCEROS AUK. *Ceratorhyncha monocerata* (Pall.).

An adult male without date, and two immature birds, one shot in March, of the female sex, the other a male shot in April.

67. BEHRING'S DOVEKIE. *Uria antiqua* (Gmel.).

An adult female of this pretty species, shot in April.

68. GUILLEMOT. *Uria*, sp.

I am not able to refer this bird to any described species. It is something like *Brachyrhamphus marmoratus*, but has a longer bill, and is probably referable to an undescribed species of *Uria*.

The specimen received is a female shot in May. It is brown marbled with blackish on the back, has a white band at the base of the scapulars, and is white below obscurely barred with black. Blakiston writes, "I have one nearly black below, and more Woodcock-coloured above."

XIX.—*Description of a new Species of* Pytelia.

By Dr. G. HARTLAUB.

PYTELIA REICHENOVII, sp. nov.

Olivaceo-virescens; macula ante oculum pallide fulva; dorso, tergo, uropygio, supracaudalibus longis, tectricum et remigum cubitalium marginibus externis obscure sanguineo tinctis; rectricibus unicoloribus nigris; subcaudalibus et subalaribus olivaceis; mento et gutture dilutius virescentibus; rostro nigricante; pedibus, ut videtur, plumbeis. Iris nigra.

Long. tot. 12 cent.; rostr. a fr. 9 mil.; al. 55 mil.; caud. 36 mil.; tars. 2 cent.

Dr. A. Reichenow collected this interesting new species at Bondongo (Cameroons). It is a female, and very probably an adult one. It is a typical *Pytelia*. I submitted this bird, before publishing it as new, to the inspection of Mr. R. B. Sharpe, who also declares it to be undescribed. Only *one* specimen was obtained. Wings and tail very short.

Bremen, March 5, 1874.

XX.—*Notice of Père David's Travels in China.*

By P. L. Sclater.

The recently completed seventh volume of the 'Nouvelles Archives du Muséum d'Histoire Naturelle de Paris' contains a most interesting report, addressed to the Professors of the museum by the celebrated traveller, Père Armand David, on his travels in the interior of China. So little is generally known concerning the exact countries in which Père David's extraordinary zoological discoveries were made, that we propose to give a short abstract of this memoir for the information of our readers.

Père David started from his residence in the province of Pekin on the 26th of May, 1868, and returned from his expedition, after an absence of twenty-five months, on the 24th of June, 1870. The first halting-place on his route was at Ching-kiang, in the province of Kiangsu, in Central China, where four months were passed in waiting for a favourable opportunity of continuing his travels westwards. This locality having been already accessible to Europeans for the last eight years, and not being very rich in animal life, only thirty species of birds were obtained there. Amongst these, however, were the new Nuthatch, described by Verreaux as *Sitta sinensis,* and other species new to the Museum of Paris.

It was not until the 13th November, 1868, that Père David succeeded in making arrangements to quit Kiangsu and to ascend the Yangtze-Kiang, or, as the Chinese call it, the Ta-Kiang or Great River. He proceeded by steamer as far as Hankow, and thence in a Chinese junk through a series of canals and lakes towards the ancient city of Ichang. After eight or ten days of this slow navigation, the Great River was rejoined, and the traveller entered a larger junk, which was destined to carry him to Setchuan. From Hankow to Chong-kin not less than sixty-four days were required to traverse the numerous rapids which flow through the imposing gorges met with in this part of the Yangtze. From Chong-kin, leaving his baggage to follow by water, our traveller took a more direct route by land, and in twelve days' journey reached Ching-tou, the capital city of the great province of Setchuan. The first two months of the year 1869 were passed in making collections in the environs of this city, and in the mountain-range which lies two days' journey to the north of it. Ching-tou lies in the midst of a fertile and well-cultivated plain, traversed by numerous canals, at an altitude of about 1500 feet above the sea-level. This part of China is much better wooded than any of the eastern portion, though no actual forests are found until the further frontiers are reached. At the end of February 1869, Père David left Ching-tou for the principality of Moupin, where most of his important discoveries were made. This district, which does not appear to be marked in any of our maps, is described as belonging to the "Mantze," or independent barbarians, who are neither Chinese nor Thibetans, but rather more allied to the latter. They form a number of small autonomous states, having their own laws and, in some cases, their own languages. The journey thither from Ching-tou lasted eight days, the second half of which was very arduous on account of the steep mountain-range it was necessary to pass, over snow and ice. At the summit of the pass between China and Moupin the barometer indicated a height of 3000 metres, or 9843 English feet.

Père David's ordinary residence in Moupin was near the summit of one of the chief valleys of the principality, at an elevation of 2129 metres, or a little less than 7000 feet above the sea-level. Just as he arrived in this strange country a somewhat serious check was caused to his collecting by the issue of a sovereign edict against hunting of any kind, on account of a metempsychosis of Buddha that had just taken place. Happily the hunters of Moupin were not very scrupulous, and this difficulty was overcome by a slight addition to their pay. The highest mountain of Moupin, called *Hong-chan-tin,* was only a day's journey from Père David's habitation; and he ascended the principal summit, which he calculated to be at an elevation of about 5000 metres, or 15000 feet. Thence, on the north and south-west, large masses of snow-clad mountains were visible. Although the centre of Moupin lies between the 31st and 32nd degree of latitude north, the winter is severe in the valley, and the ice and snow lasted for several months. Besides, all the year round there were showers of rain or snow, and frequent mists. The mountains are densely wooded up to an elevation of 9000 or 10,000 feet. The forest consists principally of pines and cedars. Rhododendrons abound, no less than sixteen different species being found, some of which attain a considerable size. Magnolias and several sorts of *Laurus* are also met with. The flora generally is stated to be very rich. In these forests the many remarkable species of mammals were discovered which M. Alphonse Milne-Edwards has lately described from Père David's collection. Amongst them the most novel are the *Rhinopithecus roxellanæ,* a monkey which is found in the highest forests, and the extraordinary *Æluropus melanoleucus,* which inhabits the same districts. In his report, Père David gives a list of no less than 110 species of mammals of which he obtained specimens, either in Moupin, or in the adjourning districts north of the Yang-tze. Of these, not less than 40 were new to science.

Of the birds of Moupin, Père David has given a nominal list in a previous number of the Bulletin*.

In the report before us he mentions that his list embraces 469 species, of which 50 were new to science, and about 90 others new to the fauna of China. The splendid new Monaul, *Lophophorus l'huysi,* frequents the open prairies above the forest-region at an elevation of 12,000 feet, but is not very numerous.

Tetraophasis obscurus and *Ithaginis geoffroyi* do not occur out of the forests, whilst *Pucrasia xanthospila* is found in them and also in the mountains above. The Amherst's Pheasant (*Thaumalea amherstiæ*) inhabits the bamboo-thickets, at an elevation of from 6000 to 9000 feet; while *Lerwa nivicola* keeps to the rocks, above 12,000 feet in altitude. Similar interesting details are given respecting the principal discoveries in reptiles, insects, and other branches of the fauna of Moupin.

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* "Catalogue des Oiseaux de Chine observés dans la partie septentrionale de l'Empire &c.," Nouv. Arch. d. Mus. vii. Bull. p. 1.

At the end of the year 1869 Père David left Moupin, nearly worn out by the fatigues and privations he had suffered, and returned to Ching-tou, the capital of Setchuan, to recruit hinself under the kind hospitality of Monsignor Pinchon, the Apostolic Vicar of that district. Before returning homewards, however, he determined to make a rapid excursion into the basin of the Kokonoor, and, starting the day after Christmas-day, arrived, after twelve days' travelling, and crossing a high range of mountains, in a wooded valley in the eastern corner of this watershed. After traversing the plain of Setchuan, hills of small elevation were first met with: thence to arrive at Longanfou, on the north-west, four days' march were necessary, and higher elevations were entered upon. The parts of the basin of the Kokonoor visited by Père David did not in general appearance differ much from Moupin; but a few novelties were met with. The most remarkable of these was the *Crossoptilon cærulescens*, which is most probably the true *Phasianus auritus* of Pallas. Other new species discovered here were *Ianthocincla artemisiæ*, *Suthora conspicillata*, *Allotrius pallidus*, and *Ixos xanthorrhœus*.

Père David returned to Ching-tou again about the end of March, and after a month's stay, in order to recruit his health and to put his collections in order, descended the Yangtze to Shanghai, arriving at that city on the 18th of June, in an exhausted state of health, and nearly overcome by the fatigue of his long and wearisome journeyings.

The great interest of Père David's discoveries consists not only in the number of strange and startling novelties met with, but likewise in the fact that he has shown the existence on the Chinese slopes of the great central range of Asia of a fauna corresponding to that of Nepaul and the Indian face of the Himalayas. Thus in mammals the *Ælurus* and *Budorcas* of the Himalayas are met with, as well as the new form, *Æluropus*. As regards the ornithology of Moupin, Mr. H. J.

Elwes has so well put forward its leading features in his recently published article on the geographical distribution of Asiatic birds*, that I cannot do better than conclude this short notice of Père David's wonderful discoveries by repeating what Mr. Elwes has said.

"We now see that the Himalayan range is not, as it seemed to be, an isolated range of mountains, possessing a fauna of its own, but simply the boundary of a vast tract of mountainous country extending over the whole of Southern China and Indo-China, and showing, wherever its elevation exceeds about 4000 feet, the same peculiar forms. It is *par excellence* a region of mountains; for wherever cultivated plains of low elevation are found, there the birds of the forest and the mountain disappear, and are poorly replaced, as in India and Eastern China, by other more wide-spread and well-known genera.

"This region is the headquarters of the Phasianidæ, the Timaliidæ, and Leiotrichinæ of Jerdon, and is, compared with most parts of the world, very poor in Raptores and Grallatores.

"Out of 170 species of birds obtained in Moupin by Père David, only 9, namely *Picoides funebris, Coccothraustes vulgaris, Chlorospiza sinica, Eophona personata, Thaumalea amherstiæ, Crossoptilon tibetanum, Tetraophasis obscurus, Cholornis paradoxa,* and a genus allied to *Pnoëpyga* and *Troglodytes,* are of genera *not* found in the Himalaya; 61 belong to genera either peculiar to or highly characteristic of those mountains; only 21, or about 12 per cent., belong to genera common to the whole of the Indo-Malay region,—showing that, as far as our present knowledge extends, Moupin, though not so rich in species as Sikim or Nepal, is, from the absence of a low flat plain like the Terai, a district more characteristic of the Himalo-Chinese subregion than any part of the Himalaya itself.

"Among the most curious birds found here may be mentioned *Cholornis paradoxa,* Verr., a bird so like *Heteromorpha unicolor,* Hodgs., that if the feet were cut off I do not think it could be distinguished. It has, however, the outer toe aborted in such a peculiar way that it has been made by its describer the type of a new genus. This bird seems to have the same habit of skulking in dense jungle of hill-bamboo that I have observed in *Paradoxornis, Heteromorpha,* and *Suthora.*

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* P. Z. S. 1873, p. 645.

"*Pnoëpyga troglodytoides,* Verr., is another curious bird, doubtfully assigned to that genus by its describer, and very different in appearance from any *Pnoëpyga* I have seen.

"Many species previously only known from the Himalaya were found in Moupin by M. David—among them *Grandala cœlicolor,* Hodgs., *Cinclus cashmeriensis,* Gould, *Lerwa nivicola,* Hodgs., and *Accentor nipalensis,* Hodgs., all birds which I have only seen at elevations above 14,000 feet in Sikim. Coupling with this the absence of Barbets, Fruit-Pigeons, Trogons, Hornbills, and the tropical genera of Woodpeckers, all birds which are found as high as 5000 or 6000 feet in Sikim, I conclude that the lowest valleys in this part of Thibet are of a much more alpine nature than in Sikim, and subject in winter to a more severe climate."

XXI.—*New and forthcoming Bird-Books.*

By the Acting Editor.

At no previous period, we believe, has so much ornithological work been going on as at the present time. In every branch of our favourite science great activity is now manifested. A few words, therefore, on the leading events of the day may not be unacceptable to such of our readers as live away from the great centres of civilization.

Commencing with the Palæarctic Region, Mr. Gould's great work on the birds of Great Britain is now complete, and his numerous subscribers are struggling to get their copies bound as quickly as possible. No bird-book, it is whispered, has ever had such a financial success. Every copy of a large edition is either already disposed of, or likely to be so within a very short period, and the work will quickly rise to a premium. Nor is this any matter for wonder, when we turn over the life-like portraits of our feathered favourites with which Mr. Gould has here presented us, and which cannot fail to interest a large number of the wealthy and educated class of the community in the study of British birds.

Mr. Dresser proceeds rapidly with the 'Birds of Europe,' of which, since the defection of Mr. Sharpe, he has the sole control. The 25th part of this work is now before us, and rivals those that preceded it in the interest of its contents. There can be no question as to the vast amount of labour bestowed upon its production, nor as to its great superiority as regards solid information over every previous work upon the subject. The minute attention paid to range and variation particularly commends it to the scientific naturalist. We see, however, with some concern that the author has fallen a victim to the prevailing epidemic for discovering antiquated names and giving them precedence over those generally in use. The nomenclature of even the great Linnæus himself, in our eyes far too sacred to be tampered with, is in some cases ruthlessly supplanted; witness the wonderful generic term Mr. Dresser has adopted for the Spoonbill. Nothing can be more satisfactory than the way in which Mr. Dresser has worked out some of the difficult members of the genus *Saxicola* in his last number; nothing can be less satisfactory than the changes he has proposed to introduce into the names of some of the best-known species.

Prof. Newton's new edition of 'Yarrell's British Birds' likewise moves on, though not so speedily as its quarto rival. Part vii., just issued, takes us through the Titmice into the Wagtails. Great difficulties occur in both these groups, which the author has surmounted in his usual judicious manner. *Parus britannicus* is discreetly left among those forms in which "specific differentiation has not been entirely established," and our old friend *Parus ater* put back into his proper place in the British list. Hurrah for the conservative reaction! In the case of the Wagtails *Motacilla yarrelli* is kept distinct from *M. alba,* but conclusively shown to be the true *M. lugubris* of Temminck, which name is adopted for it.

It might have been supposed that three such books on one subject would be enough to satisfy the British public at the present time; but it appears that such is not the case, for we are told that a new edition of Dr. Bree's 'Birds of Europe' is called for, and will be commenced forthwith.

Persia, as intervening between the well-known faunas of Europe and India, is a most interesting country as regards the geographical aspect of ornithology. We are rejoiced to hear that there is at last every prospect of our becoming well acquainted with it. Major St. John and Mr. Blanford are now in this country preparing a report upon the expedition which they were engaged in on the eastern frontiers of Persia last year. The second volume of this work, to which the Indian Government has accorded considerable assistance, will be prepared by Mr. Blanford, and will be devoted entirely to the zoology of Persia. The series of birds is large; and Mr. Blanford's thorough acquaintance with Indian and European forms will render his account of the intervening district of great value to science.

As regards the more central portions of the Palæarctic Region, we hear that the new Russian expedition under Prshevalski has lately returned to St. Petersburg*, having amassed large zoological treasures in the great desert of Gobi and adjacent parts of Tibet. The species of birds obtained number 292, among which are said to be new species of *Gyps*, *Turdus*, *Pterorhinus*, and *Podoces*. The first volume of Prshevalski's work on the results of this expedition, to be entitled 'Mongolia and the country of the Tanguts,' will appear before the end of the year.

M. Severtzoff has published his researches upon the Fauna of Turkestan in the 'Transactions' of the Imperial Society of Naturalists of Moscow, under the title of "Turkestanskie Sevotnie." Unfortunately the whole book is in Russian, so that it is not possible for a person unacquainted with that abnormal language to make much of it. It is, however, an important work; and we hope, with Mr. Dresser's kind aid, to give some account of it in our next number.

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* See Petermann's 'Mittheilungen,' 1874, p. 41, for some account of this adventurous expedition; likewise 'The Geographical Magazine' for April 1874, p. 5.

Still further eastward our friend and fellow worker, Mr. Swinhoe (whose health has unfortunately compelled him to return to England), continues to prosecute his inquiries into the Chinese ornis in the most energetic manner*. Our present number contains his account of recent collections formed in Japan by Captain Blakiston; and for our next issue he promises us an article on the birds obtained at his last place of sojourn, Chefoo. The locality is of great interest, being previously unexplored by naturalists, and lying immediately opposite the "great unknown land" of Corea, whence Mr. Swinhoe has already obtained several novelties.

In connexion with this part of our subject we must also call attention to Mr. Elwes's suggestive article on the distribution of Asiatic birds recently published in the Zoological Society's 'Proceedings,' though this more especially relates to the fauna of the Indian Region, which we now proceed to speak of.

At the time of his lamented death Dr. Jerdon, as we all know, was engaged in preparing a new edition of his 'Birds of India.' We are glad to be able to state that there is every prospect of his plans being carried out in a very efficient manner. The rapid sale of the whole of Dr. Jerdon's original edition shows that there is a great demand for a second; and every one will allow that Lord Walden is the naturalist best qualified to carry it through the press. In Major Godwin-Austen, who has lately devoted so much time to the investigation of Indian ornithology, he will have a most efficient coadjutor.

Of our Indian *pendant*, which rejoices in the eccentric title of 'Stray Feathers,' a notice of parts 1 to 4 has already been given in this Journal† by a writer well qualified to speak of Indian ornithology and all that pertains to it. Part 5 (dated July 1873) is the only additional number received in this country. It contains many papers of interest by the editor and other Indian ornithologists. But we must protest against the publication of such articles as that by Capt. Hutton on the "Parroquets of India," in which one species is described as "totally distinct" because it sits still all day, and another (not yet obtained) because it is said to breed at a different season. Mr. Stoliczka gives an interesting note on the structure of *Indicator*, in confirmation of its affinity to the Capitonidæ.

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* Amongst his most remarkable recent discoveries is the new Stork, *Ciconia boyciana*, described and figured P. Z. S. 1873, p. 513, and 1874, pl. i., of which there is a living example in the Zoological Society's Gardens.

† Ibis, 1873, p. 211.

We believe that no portion of Mr. Hume's new general work on Indian birds, to be entitled 'A Conspectus of the Avifauna of India and its dependencies,' has yet made its appearance.

Major Godwin-Austen's last visit to the Naga Hills and Munipore has resulted in the discovery of ten new species of birds, which were described at the Zoological Society's meeting on the 6th of January last. These were named *Sitta nagensis, Garrulax galbanus, G. albosuperciliaris, Trochalopteron cineraceum, T. virgatum, Actinodura waldeni, Layardia robiginosa, Prinia rufula, Cisticola munipurensis,* and *Munia subundulata.* An eleventh has since been described in the Annals of Nat. Hist. (ser. 4, vol. xiii. p. 160) as *Sibia pulchella.*

Dr. John Anderson, of Calcutta, is in this country on leave, but by no means idle, as he is engaged in working up the zoological collections of the "Yunan" Expedition, to which he was attached as naturalist. After some pressure the Indian Government have been induced to give liberal aid to this undertaking; and the results will shortly be published in the Linnean Society's 'Transactions.' The new species of birds have, it will be recollected, been already diagnosed in the P. Z. S. 1871, p. 211; but the forthcoming work will give an account of all the species met with in the *terra incognita* traversed by the expedition.

As regards the more eastern parts of the Indian region, we hear of a work on the birds of Borneo, mainly founded on Doria's collections in Sarawak, as shortly to be published in Italy*. Of Lord Walden's valuable article on the birds of the

* See advertisement on cover.

Philippines, which will fill up a ***hiatus valdè deflendus*** in our knowledge of the Indian ornis, an abstract is given in the Zoological Society's 'Proceedings' for 1873 (p. 519); and the complete memoir will appear before long in the Society's 'Transactions.' The plates are already on the stone.

We now come to the Æthiopian Region. Here Mr. Sharpe is working away with his usual activity, as several recent contributions to the 'Proceedings' and 'Annals of Natural History' testify. We also hear with pleasure of the steady progress of his proposed new edition of Layard's 'Birds of South Africa.'

H. von Heuglin's important work on the birds of North-Eastern Africa has at length come nearly to a close. The 42–43rd "Lieferung" brings us to the end of the text and finishes the second volume. But a supplement is promised of additions and alterations, which, with preface and index, will complete the work. The text proper contains an account of no less than 929 species, besides what remain to be added in the supplement.

New Guinea, situate in the northern portion of the fourth and last of the regions of the Old World, has lately been the seat of the researches of several rival naturalists of different nations. Russia has sent Dr. Miklucho-Maclay, Germany Dr. A. B. Meyer, and Italy Signor D'Albertis, to reap part of the rich harvest presented by Papuan nature in every department. Of these active explorers D'Albertis has succeeded in bringing his results, as regards birds, first before the world. The firstfruits of his collections, which reached London in June last year, contained sixteen new species, which have been described in the Zoological Society's 'Proceedings'[*]. Amongst them were two new Birds of Paradise, *Paradisea raggiana* and *Drepanornis albertisi,* besides other remarkable novelties. A third new Bird of Paradise (*Epimachus elioti*) has lately been described by Mr. Edwin Ward from a native skin[†]. We trust that the other two explorers of the wilds of Papua will have succeeded in producing other results equally remarkable.

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[*] P. Z. S. 1873, pp. 557, 690.

[†] See P. Z. S. 1873, p. 742.

As regards Australia itself there is not much to be said, except that Mr. Gould continues to receive occasional novelites from the northern districts.

We cannot, however, help thinking that a collector would be likely to do well at Port Darwin, the northern terminus of the Australian telegraph, as we are not aware that any birds have yet been collected in that district, and the place must now be readily accessible by sea from Sydney. It is certain that in other branches of natural history at least, much might be done in this locality.

Passing to New Zealand, Dr. Buller's valuable work is, as most of our readers well know, now complete. Though it has been subjected to some rather severe criticisms by rival authors, no one can doubt its value, or do otherwise than appreciate the pains that Dr. Buller has bestowed upon its production. We are glad also to hear that it has met with a good reception in New Zealand, and is exciting the colonists to the more complete elaboration of their ornis. The completion of this work will not, however, we believe, prevent Dr. Finsch, who has devoted much time and attention to this subject, from finishing and giving to the world an account of the birds of New Zealand, which he has had for some time in preparation.

Before finally quitting the Old World, a word must be said upon the ornithology of Oceania, or rather of the numerous islands which are comprised in it. Our great authority on this part of our subject is again Dr. Finsch, and his collaborateur Dr. Hartlaub, whom we have to thank for several recent contributions to our knowledge of Pacific ornithology. The well-known house of Godeffroy, of Hamburg, still continues to employ active collectors in this part of the world, and deserves many thanks from naturalists for amassing the materials upon which the above-mentioned authors have based the greater part of their labours.

Crossing over to the northern portion of the New World, we find our American friends as active as usual. Following hard upon Dr. Coues's 'Key to North-American Birds,' the merits of which were slightly touched upon in our last volume*, we find announced as ready the first two volumes of Professor Baird's long-promised 'History of North-American Birds,' in which he has been assisted by Dr. Thomas M. Brewer and Mr. Robert Ridgway. "The object" of this work, we are informed, is "to give a complete account of the birds of the whole of North America, north of Mexico, arranged according to the most approved system of modern classification, and with descriptions which, while embodying whatever is necessary to the proper definition of the species and their varieties in as simple a language as possible, exclude all unnecessary technicalities and irrelevant matter. On this account it is especially recommended to the beginner. The descriptions are all prefaced by analytical and synoptical tables, intended to diminish as much as possible the labour of identification.

"The illustrations consist, first of a series of outlines exhibiting the peculiarities of the wing, tail, bill, and feet of each genus; but as these diagrams, however serviceable to the ornithologist, necessarily fail to give any idea of the form of the bird, they are supplemented by a second series, including a full-length figure of one species of each genus. In addition to the above a series of plates is furnished, containone or more figures of the head, in most cases of life-size, of every species of North-American bird, including the different sexes, ages, and seasons, where these are necessary for the proper illustration of the subject."

There can be no doubt that such works as these and Dr. Coues's 'Key' will render great facilities to future students of the American ornis.

We now arrive at the sixth and last great ornithological region of the world, the Neotropical. Here, as many of our readers are aware, Mr. Salvin and I have been long at work, in hopes of some day being able to accomplish a task which I proposed to myself some years ago, the preparation of an 'Index Avium Americanarum,' something after the fashion of the best part of Bonaparte's 'Conspectus.' We have got so far as to have monographed many of the least-known and most difficult groups, and to have worked out a large number of local collections.

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* See Ibis, 1873, p. 442.

In further progress towards this end we have now prepared and printed, at our own cost, a 'Nomenclator Avium Neotropicalium,' or systematic list of the generic and specific names of all the species of Neotropical birds which we actually know from personal examination, the *habitat* or *patria* being in each case added, so as to show their geographical distribution. This will form the base of our future operations, and be also useful, we trust, for the establishment of a more uniform nomenclature. During Mr. Salvin's absence in Guatemala I have been busily employed getting this work through the press, and it is now ready for issue. I find, somewhat to my surprise, that it contains the names of not less than 3565 species, of which about 2000 belong to the great group of Passeres, and the remaining 1500 to the other Orders. It must be recollected, moreover, that there are, doubtless, many good species which we have not met with, and many others still remaining to be discovered before the neotropical avifauna can be deemed to be fairly worked out. It is evident, therefore, that we have no slight task before us.

The collections used for the preparation of the 'Nomenclator' were my own and that of Messrs. Salvin and Godman. The former of these contains a series of Passeres and other higher Orders down to the end of the Psittaci, altogether about 7000 specimens. The latter is still larger and more general, embracing the whole series of American birds, and is particularly complete in Central-American forms, resulting from Mr. Salvin's and Mr. Godman's visits to Guatemala and from the labours of Arcé and other collectors whom they have employed.

During the reexamination of these two collections while the 'Nomenclator' was being compiled, thirty-one new species were met with, which are described in the Appendix.

Several energetic collectors are still hard at work in different parts of the Neotropical Region, and furnish us with constant additions to our list. Mr. Goering in Venezuela, Mr. Salmon in Antioquia, Mr. H. Whitely in Peru, and Mr.

W. H. Hudson of Buenos Ayres, have all recently sent collections to London, which have come under our examination. Besides these, M. Taczanowski, of Warsaw, has lately visited this country for the purpose of comparing some of the specimens lately collected by M. Jelski in Central Peru with our named series. The result has been the determination of 23 new species, which were described by M. Taczanowski at a recent meeting of the Zoological Society. It must be recollected that these are additional to the new species lately described by Dr. Cabanis from the same collection. It is certainly remarkable that a district already visited by Tschudi should have yielded such novel results, and gives a good idea of the richness of the Andean avifauna.

We have now concluded a summary notice of the principal events in geographical ornithology that have lately taken place. We hope to be able to continue the subject in the next number of 'The Ibis' by the addition of a few remarks on the monographs and works bearing on the general scope of ornithology lately published or in preparation.

XXII.—*Letters, Announcements, &c.*

The following letters, addressed "To the Editor of 'The Ibis,'" have been received:—

Northrepps, Norwich,
January 16, 1874.

Sir,—I observe that Lieut. Legge, at p. 9 of his interesting paper in the present volume of 'The Ibis,' on the birds of Southern Ceylon, refers the *Spilornis* inhabiting that district to *S. cheela*, but mentions that it there "appears to average smaller dimensions than in India."

Mr. Holdsworth, on the contrary, in the P. Z. S. for 1872, at p. 412, refers the *Spilornis* of Ceylon to *S. bacha* (Daudin), of which *S. bido* (Horsfield) is a synonym.

All the Ceylonese specimens of *Spilornis* which have come under my notice have certainly belonged to the latter species, which is also an inhabitant of the Malay peninsula, Sumatra, and Java.

I am yours, &c.,
J. H. Gurney.

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33 Carlyle Square, S.W.
February 21, 1874.

Sir,—I should like to make a correction or two to my paper on Chinese ornithology, sent from Shanghai, and published in 'The Ibis' for last October. At page 364 I have reported that I got in the market a *Circus cineraceus*. This, on closer examination, I find to be a male *C. melanoleucus* in the light reddish brown immature dress, a state in which the bird does not appear to have been procured before. This plumage has neither been described nor figured. I have never met with Montagu's Harrier myself in China, nor have I any evidence of its occurrence within our limits.

At page 366 I suggest that *Æthyia ferina,* or the "Ferruginous Duck," should be expunged from the Chinese list of birds, as it had never occurred to me. Mr. A. Michie, of Shanghai, writes and describes a Duck which has lately been brought to him at Shanghai from the Taihoo Lake in some numbers. His description tallies precisely with that of this species. So my suggestion falls through.

When passing through Shanghai a few months back, Mr. Triggs, of Lane, Crawford, & Co., presented me with the skin of an adult male and of an immature male of *Pelecanus crispus* which he had shot a week before on the river close to Shanghai. I was aware of the existence of this species in China, but never procured specimens before.

I am, yours truly,
Robert Swinhoe.

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33 Carlyle Square, S.W.
March 7, 1874.

Sir,—It will be interesting to some of the readers of 'The Ibis' to learn that the bird described by Radde in his 'Reisen im Süden von Ost-Sibirien, 1855–59,' Band ii. p. 260, Taf. ix., as *Sylvia* (*Phyllopneuste*) *schwarzi*, is the same as that named by Prof. Milne-Edwards *Abrornis armandi*, Nouv. Arch. du Mus. iii. Bull. p. 32. In my "Revised Catalogue of the Birds of China," P. Z. S. 1871, no. 132 (p. 355), I proposed a new genus for this species, but entered it by mistake as *A. davidii*. It should now stand as *Oreopneuste schwarzi* (Radde). I have never met with the bird in China, but have a specimen collected by Père David at Pekin, one of the "doubles" received in exchange from the museum at the Jardin des Plantes.

It may be as well also to note that my name *Calamodyta bistrigiceps*, P. Z. S. 1871, p. 353, must give way to von Schrenck's *Salicaria* (*Calamodyta*) *maacki*, 'Reisen und Forschungen in Amurland,' Band i. p. 370, Taf. xii. figs. 4–6, which relates to the same species and has priority. The figure on the plate gives a good idea of the bird, but, unfortunately, leaves out its chief characteristic, the black line over the eyebrow. V. Schrenk founded the species on a single specimen procured by Herr Maack (the astronomer) south of the Amoor river. Père David has procured it at Peking; and I have two specimens from Amoy. It has lately also been found by Blakiston at Hakodadi, North Japan.

Yours truly,
ROBERT SWINHOE.

Dinapore, India,
March 10, 1874.

SIR,—I was glad to see, in 'The Ibis' for January 1874, that the little bird I called *Melizophilus striatus* had been identified as *Drymœca inquieta*, Rüpp.

I was not satisfied with my generic determination of the bird, on account of the very different nest and eggs. My examples of *Melizophilus provincialis* were very bad ones, with some of the tail-feathers wanting. The strongly striated plumage, however, is against the bird being a *Melizophilus*; and this I should have taken more account of.

As far as *Hippolais elaica,* Lindermayer, is concerned, Mr. Blanford is wrong in considering it identical with the Indian species known as *H. rama,* which is identical with *H. caligata,* Licht.

I have the eggs of both; and they are widely different. The habits, notes, and nest of *H. elaica* are all described as different from those of the Indian bird. There are many birds apparently much alike which are quite distinct. I believe that the bird usually now received as *H. rama* is not that species, but that *Jerdonia agricolensis,* Hume, = *Sylvia rama,* Sykes.

Mr. Blyth says, "Mr. Jerdon has sent me two very closely allied races which he thinks have been confounded under *Phyllopneuste rama.* The one he regards as true *rama,* which is of a more rufescent brown colour; the other has a more greyish shade. I can hardly, however, bring myself to admit their distinctness. The latter variety occurs abundantly in Lower Bengal, upon the sandy soil above the tideway of the Hoogly, haunting babool topes and scattered trees near villages, as well as hedges and low bush-jungle; and I have recently observed it in the jungles north and west of Midnapore."—*Journal of the Asiatic Society,* 1847, p. 439.

Again he says, "Those of S. India have a slight ferruginous tint throughout; but we can detect no further difference."—*J. A. S.* xiii. p. 483.

Col. Sykes's original description is as follows:—

> "SYLVIA RAMA. *Sylv. pallidè brunnea, subtùs albescens; caudâ obsoletè fasciatâ.* Longitudo *corporis* $4\frac{7}{10}$, *caudæ* $1\frac{9}{10}$."—*P. Z. S.* 1832, p. 89.

The more rufous bird is the *smaller* one, which Mr. Hume described as *Jerdonia agricolensis,* from a large series of each which I had prepared. The original description of *Sylvia rama,* on account of the small size of the bird, will not apply to the larger and paler bird usually received as *H. rama.* This will stand as *H. caligata,* Lichtenstein; and the smaller, or *Jerdonia agricolensis,* Hume, should, I think, be received in future as the true *H. rama,* Sykes.

The geographical distribution of the two birds also favours this conclusion.

Of the perfect distinctness of the two species, *H. rama* and *H. caligata,* there can be no possible doubt. Habits vary, notes perceptibly so to me; and when freshly moulted, the warm ruddy *rama* is a very different bird from the cold grey *caligata.* In this remark Messrs. Tristram and Hume can bear me out. Had I not carefully studied both birds in life, I might, like Mr. Blanford, have considered *faded* examples of each identical; but knowing the two species as well as I do, to unite them is, with me, an impossibility.

The closely allied species are the great charm of ornithology, and, unless upon sure grounds, no such thing as actual connexion or interbreeding should be supposed.

For my own part, I have had as many birds through my hands as most people, but I have never yet seen the slightest proof of any connexion between closely allied species; nor have I heard of such interbreeding in a wild state.

These fascinating affine species are as distinct creations as *Gyps barbatus* and *Nitidula hodgsoni*; and in regard to the most interesting subjects in ornithology let us stick to facts and avoid speculation.

I am yours, &c.,

W. E. Brooks.

Mr. Gould points out to us that the *Suya superciliaris* of Hume, figured in Henderson and Hume's 'Lahore to Yarkand,' pl. xviii. p. 218, of which a single imperfect specimen was obtained on the Yarkand plains, is, as he believes, identical with *Rhopophilus pekinensis,* Swinhoe, figured in the 25th Part of the 'Birds of Asia.' Mr. Gould has examined Dr. Henderson's type, which, however, it would be well to compare with Mr. Swinhoe's series. We may remark that there is another *Suya superciliaris,* of Anderson (P. Z. S. 1871, p. 212); so that Mr. Hume's name would not stand in any case.—P. L. S.

Dr. Kirk has brought with him on his return from Zanzibar a Grey Parrot (*Psittacus erithacus*). He informs us that this

Parrot was brought from the Manyuema country, on the west of Lake Tangyanika, opposite Ujiji, where, according to Dr. Livingstone's information, the chief is called "Mana-kos," or "King of the Koskos" or Parrots. The existence of *Psittacus erithacus* in the Niam-niam country, on the western watershed of the White Nile, was already known*; but the fact of its occurrence on Lake Tangyanika is, we believe, new. Dr. Kirk says it is often brought down to Zanzibar by the dealers in ivory.—P. L. S.

Mr. Clark Kennedy is preparing a volume on the natural history of the Orkney Islands, which will be published about the end of June. It will be entitled 'The Sportsman and Naturalist among the Isles of Orkney,' and will contain a complete list of all the birds of those islands, with notes on their habits and migrations, and descriptions of other animals and plants met with there.—P. L. S.

M. Bourcier's collection of Humming-birds was, as we are informed by Mr. D. G. Elliot, sold in Paris in the beginning of last March. Mr. Elliot bought nearly all the types, and also the specimens of the rarer species, for his own collection, where, he requests us to say, they will in future be accessible to any one desirous of consulting them.

We are also informed that Count Turati, of Milan, has bought half the collection of Humming-birds belonging to the late E. Verreaux. The remaining portion is still undisposed of.—P. L. S.

The New Paradise-birds and their Discoverers.—The concluding part (iv.) of the 'Journal für Ornithologie' for 1873 (dated October 1873, but only issued a few days since) contains the description of a "new Paradise-bird, *Epimachus wilhelminæ*," by Dr. A. B. Meyer. The article is dated "Andai (New Guinea), 15 March, 1873." (Did the MS.

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* *Cf.* Heuglin, Ornith. Nordost-Afrika's, p. 745.

really travel by post all the way from Andai to Berlin?) The supposed new bird is obviously the same as *Drepanornis albertisi,* discovered by d'Albertis at Atam, in the Arfak mountains *in September* 1872, received in London on June 17, 1873, and described the same evening at the Zoological Society's meeting*. Now when Dr. A. B. Meyer arrived in Vienna in October last, he wrote to me for information concerning this bird, and I immediately sent him a copy of the article in 'Nature' in which it is described and figured. He had therefore ample time to have cancelled his redescription sent to the 'Journal für Ornithologie,' and *ought* to have done so. Its appearance at this late date, without reference to D'Albertis's discovery, requires explanation, failing which it can only be regarded as an attempt to obtain an unfair priority.

I also learn from Hr. J. v. Rosenberg, the distinguished Dutch traveller, that in April 1871 he saw a single female specimen of this same Paradise-bird in the collection of Mr. D. van Duivenbode, Jr., at Ternate, and had proposed to call it *Epimachus veithii,* in a work on his travels in the Eastern Archipelago, which is now in preparation. It is singular that three travellers should have all so nearly at the same time met with traces of this hitherto unknown species.

Signor L. M. d'Albertis has just passed through London on his return to Genoa from Sydney, viâ Levuka, Honolulu, and San Francisco. He has left his extensive collections here, and will shortly return to work them out. He tells us that Orangerie Bay†, where the native skins of the new *Paradisea raggiana* were obtained, is not near Salawatty, as I had supposed, but at the extreme S.W. point of New Guinea, in the district lately visited by H.M.S. 'Basilisk.' This point is of great interest, as showing that each part of Papua has its peculiar form of *Paradisea.*

Signor d'Albertis, we are glad to say, gives us a good account of the welfare of our colleague, Mr. E. L. Layard, whom he met with at the capital of our new Feejeean Dominion.—P. L. S.

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* See 'Nature,' viii. p. 306 (August 14th), and P. Z. S. 1873, p. 560, pl. xlvii.

† Not Arangesia, as misprinted by Mr. Elliot in his Monograph of the Paradise-birds.

Corrigenda. An unfortunate misprint has been made in the Supplementary number of our last volume, p. 462. *Otocaris* should have been printed *Otocoris,* the name having been *thus* written by Messrs. Blanford and Hume, whereas *Otocorys* (*κόρυς, alauda*) is the correct spelling; we have, unfortunately, given them the credit of a still greater blunder. Again, at p. 491, Mr. Brooks should have been named as the author who, according to Lord Walden, had wrongly identified specimens of *Siphia hyperythra* with *Erythrosterna parva.* —P. L. S.

Our last letter from Mr. Salvin (dated Guatemala, March 15th) announces his speedy return to England, viâ New York. He had lately been into Vera Paz, as far as Coban, staying a few days at San Geronimo by the way, where he had found *Panyptila sancti-hieronymi* engaged in nest-building. *Oreophasis derbianus* occurs, without doubt, in Vera Paz, several specimens having been obtained in a high ridge of mountains on the left bank of the Rio Negro, above the village of Chicaman in what *was* the department of Totonicapam, but now Gueguetenango.

THE IBIS.

THIRD SERIES.

No. XV.—JULY 1874.

XXIII.—*On the Neotropical Species of the Family* Pteroptochidæ. By P. L. Sclater, M.A., Ph.D., F.R.S.

(Plate VIII.)

In 1831 the zoological traveller Kittlitz established the genus *Pteroptochus* upon three new species of birds which he had observed in Chili in 1827, during his sojourn there with the expedition of the 'Seniavin.' He distinguished them principally by their remarkably short and rounded wings—never used in flight according to his observations, and their large feet and strong curved claws. He considered them allied to the Wrens (*Troglodytes*), and referred what is actually another member of the same group of birds (*Triptorhinus paradoxus*), which he discovered at the same time, to the genus *Troglodytes*.

About the same period this singular group of birds attracted the attention of the distinguished French explorer Alcide D'Orbigny. Besides two of the Chilian species already obtained by Kittlitz, D'Orbigny discovered a still more remarkable form in Northern Patagonia, which, on his return home, he described in conjunction with M. Isidore Geoffroy as *Rhinomya lanceolata*. M. D'Orbigny more correctly referred the group (of which he constituted an independent family under the name "Rhinomydææ") to the neighbourhood of the Ant-Thrushes (Formicariidæ), and assigned as their most essential character "la forme des narines, toujours recouvertes d'un opercule cartilagineux bombé, de sorte que l'ouverture est au-dessous, comme une fente longitudinale"*.

Captain King, who was engaged in the survey of the Magellan Straits about the same time, likewise met with one of these singular birds in Patagonia, and designated it in his MS. "*Hylactes tarnii*," under which name it was described in the 'Proceedings' of the Zoological Society for 1830–31.

Besides a few scattered notices and figures, little progress was made towards the right understanding of these birds until 1847, when Johann Müller, in his celebrated article upon the voice-organs of the Passerinæ, showed that *Scytalopus* belonged to the Tracheophonine section of the Order. Müller likewise pointed out that *Scytalopus*, and its near ally *Pteroptochus*, differed from all other Passeres known to him in having a double fissure in the posterior margin of the sternum†. The latter fact, as regards *Pteroptochus*, had been previously recognized by Eyton‡; but Mr. Eyton has not noticed the peculiar arrangement of the trachea.

Following up Müller's great discovery, Dr. Cabanis, in his 'Ornithologische Notizen,' published shortly afterwards, arranged together all the then known genera of these birds in the Tracheophonine division of the Passeres. Dr. Cabanis, however, did not make a separate family of these birds, but placed them amongst the Ant-Thrushes, in his family "Eriodoridæ."

Bonaparte, in his 'Conspectus' (1850), followed Cabanis's classification.

In 1860, in the second part of the 'Museum Heineanum,' Dr. Cabanis adopted the more correct view of assigning higher rank in classification to these peculiar birds, and instituted the family "Pteroptochidæ" for their reception. Of his family Pteroptochidæ Dr. Cabanis made two subfamilies,

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* Voyage dans l'Amérique Méridionale, Ois. p. 192.

† *Op. cit.* p. 41.

‡ Zool. Voy. Beagle, Birds, p. 150.

"Pteroptochinæ" and "Menurinæ," the latter designed for the peculiar Australian type *Menura*. But looking to the very singular osteological characters which Prof. Huxley has pointed out in *Menura**, and to the fact that instead of possessing the peculiar laryngeal conformation of the Tracheophonæ† it is provided with five pair of singing-muscles, there seems to be no doubt the *Menura* represents a distinct family, "Menuridæ," quite different from all other Passeres, and to be referred to the division Oscines. The Pteroptochidæ must remain, therefore, as an independent family of themselves, to be placed, according to my views, at the end of the Tracheophonine section of the Passeres, and at once distinguishable from all other Passeres by the posterior margin of the sternum being doubly emarginated, as in the Pici and many Coccyges‡.

Of the Pteroptochidæ, as thus limited, I distinguish eight generic forms, which may be shortly diagnosed as follows, it being understood that nearly every one of them possesses other well-marked characters besides, the chief of which are commented upon under the separate generic heads.

a. mesorhinio compresso, rotundato, lineariformi.
    a′. rostro tenui, subulato.
        a″. caudâ brevi: lororum plumis brevibus .. 1. *Scytalopus.*
        b″. caudâ longâ: lororum plumis exstantibus 2. *Merulaxis.*
    b′. rostro robusto.
        c″. tarsorum scutis obsoletis: rostri culmine recto .... 3. *Liosceles.*
        d″. tarsorum scutis divisis: rostri culmine incurvo.

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* P. Z. S. 1867, p. 472.

† See Eyton's account of the trachea of *Menura*, Ann. N. H. vii. p. 49 (1841).

‡ The only other known Passerine form in which two emarginations are present on each side of the posterior margin of the sternum is the Australian genus *Atrichia*. Whether this form certainly belongs to the Pteroptochidæ, cannot be positively ascertained until the structure of its larynx is known; but I have little doubt that such is the case. There is a sternum of *Atrichia rufescens* in the Cambridge Museum.

a'''. ungue postico brevi
  rostro brevi .... 4. *Pteroptochus.*
  rostro elongato .... 5. *Rhinocrypta.*
b'''. ungue postico longo curvo .... 6. *Hylactes.*
b. mesorhinio in scutum ovale expanso.
  c'. ungue postico longo, recto, acuto .... 7. *Acropternis.*
  d'. ungue postico modico, curvo .... 8. *Triptorhinus.*

Genus 1. SCYTALOPUS.

Scytalopus, Gould, P. Z. S. 1836, p. 89: type *S. fuscus,* Gould = *S. magellanicus*.

Sylviaxis, Lesson, Rev. Zool. 1840, p. 274: type *S. magellanicus.*

Agathopus, Sclater, P. Z. S. 1858, p. 69: type *A. micropterus,* Scl. = *S. analis.*

The genus *Scytalopus* embraces a series of small Wren-like birds, thinly distributed over South America from Patagonia to Columbia, but in the north keeping to the temperate regions of the Andes. One species occurs in the wood-region of S.E. Brazil, and another in the interior, but none, so far as we know, in Amazonia and Guiana. From the true Wrens the *Scytalopodes* may be easily distinguished externally by the operculum of the nostril and the divided scutes on the planta.

I have six distinct species of *Scytalopus* in my collection; and there are two others known of which I have not yet succeeded in getting examples.

The most complete account yet given of the species of this genus is that of Lafresnaye in Jardine's 'Contributions to Ornithology' for 1851.

The species of *Scytalopus* may be arranged as follows:—

a. supra unicolores,
  minor, totus nigroplumbeus .... 1. *magellanicus.*
  minor: pectore albo-cinereo .... 2. *speluncæ.*
  major, totus cinereus...................... 3. *senilis.*
  major, ventre obsoletè transradiato .... 4. *obscurus.*
b. dorso postico rufo.
  a'. hypochondriis rufis .... 5. *griseicollis.*
  b'. hypochondriis rufo nigroque undulatis,
    minor: pectore schistaceo .... 6. *sylvestris.*
    minor: pectore albo .... 7. *indigoticus.*
    major: pectore plumbeo .... 8. *analis.*

1. SCYTALOPUS MAGELLANICUS.

Sylvia magellanica, Lath. Ind. Orn. ii. p. 528.

Scytalopus magellanicus, Darwin, Voy. Beagle, Zool. iii. p. 74; Gray, Faun. Chil. i. p. 307; Sclater, P. Z. S. 1860, p. 385; Scl. et Salv. Ibis, 1868, p. 187, et Nomencl. p. 76.

Scytalopus fuscus, Gould, P. Z. S. 1836, p. 89; Jard. et Selb. Ill. Orn. n. s. pl. 12; Jard. Contr. Orn. 1851, p. 116, pl. 77; Bridges, P. Z. S. 1841, p. 94; Scl. Cat. A. B. p. 68.

Platyurus niger, Sw. An. in Menag. p. 323; Puch. Voy. au Pôle Sud, Zool. iii. p. 91, Atlas, pl. 19. fig. ~~1~~. 5

Scytalopus fuscus et *S. niger,* Bp. Consp. p. 206.

Pteroptochus albifrons, Landb. Wiegm. Arch. 1857, p. 273.

Scytalopus albifrons, Ph. et Landb. Cat. Av. Chil. p. 15.

Nigro-plumbeus unicolor: verticis plumis interdum albo terminatis: rostro nigro: pedibus corylinis: long. tota 4·4, alæ 2·2, caudæ 1·5.

Hab. Chilia et fr. Magellan.: Valdivia (*Landbeck*); ins. Chiloe, Chonos arch., Port Famine, et ins. Falklandicæ (*Darwin*); Ecuador (*Mus. P. L. S.*).

Mus. P. L. S.

I have three Chilian skins of this bird, and two from Ecuador which I cannot distinguish except in the legs being rather darker. One of my Chilian skins was received from Landbeck as his *Pteroptochus albifrons.* But the white terminations of the head-feathers, which are very slight, are, in my opinion, only sexual, and perhaps seasonal.

I have not seen the young of this species; but it probably has a brown plumage, as in other species of the genus.

2. SCYTALOPUS SPELUNCÆ.

Malacorhynchus speluncæ, Mén. Mém. Acad. St.-Pét. ser. 6, Sc. Math. et Phys. t. iii. pt. 2, p. 527, pl. 13. fig. 1; Lafr. Contr. Orn. 1851, p. 148.

Suprà cærulescenti-murinus; subtùs pallidior; gutture, collo pectoreque albo-cinereis: alis caudâque fusco-nigricantibus: long. tota 4·5, caudæ 2·0, tarsi 0·9. (*Ménétries, l. c.*).

Hab. Brasil. merid., prope S. Joao del Rey, prov. Minas Geraes (*Mén.*).

Mus. Petropolitano.

Obs. Species nobis nondum obvia, sed, ut videtur, certè distincta.

3. SCYTALOPUS SENILIS.

Scytalopus senilis, Lafr. Rev. Zool. 1840, p. 103; Contr. Orn. 1851, p. 149.

Cinereus unicolor; subtùs paulo dilutior: rostro fusco: pedibus corylinis: long. tota 4·7, alæ 2·3, caudæ 2·3. Jr. rufescente, præcipue in ventre, variegatus.

Hab. Interior of Columbia.

Mus. P. L. S.

I have two "Bogota" skins, which I refer to this species of Lafresnaye. They do not, however, show any white on the forehead or wing-coverts, such as Lafresnaye describes. But my specimens are not quite adult.

4. SCYTALOPUS OBSCURUS.

Sylvia obscura, King, Zool. Journ. iii. p. 429 (1828).

Scytalopus obscurus, Gay, Fauna Chilena, i. p. 308 (1847); Phil. et Landb. Cat. Av. Chil. p. 15.

Merulaxis fuscoides, Lafr. Contr. Orn. 1851, p. 149.

Scytalopus fuscoides, Sclater, P. Z. S. 1867, p. 325; Scl. et Salv. Nomencl. p. 76.

Obscurè schistaceus, in uropygio hypochondriis et crisso fusco adumbratus et obsoletè nigro transfasciolatus: rostro fusco: pedibus flavidis: long. tota 4·8, alæ 2·0, caudæ 1·6.

Hab. Chili, central provinces (*Ph. et Landb.*).

Mus. P. L. S.

I have hitherto called this second Chilian species *fuscoides* (see P. Z. S. 1867, p. 325). But it is certainly the bird previously described by Gay as *S. obscurus*, and may probably be, as Gay supposes, the *Sylvia obscura* of King.

This species is easily distinguishable from the *S. magellanicus* by its larger size, more cinereous colour, longer tail, and the faint bars across the rump and lower belly. Its vernacular name in Chili is "*Chercan,*" according to Philippi and Landbeck, whereas *S. magellanicus* is called "*Chercan negro.*"

5. Scytalopus griseicollis.

Merulaxis griseicollis, Lafr. Rev. Zool. 1840, p. 103; Contr. Orn. 1851, p. 149.

Scytalopus griseicollis, Sclater, P. Z. S. 1854, p. 111, et 1855, p. 142; Cat. A. B. p. 168; Scl. et Salv. Nomencl. p. 76.

Megalonyx nanus, Less. R. Z. 1842, p. 135 (?).

Merulaxis squamiger, Lafr. Rev. Zool. 1840, p. 103, et Contr. Orn. 1851, p. 149 (jr.)?.

Schistaceus, interscapulio et scapularibus rufo perfusis: uropygio lateribus et ventre cum crisso rufis: alis caudâque fuscis: rostro corneo, pedibus pallidè corylinis: long. tota 4·5, alæ 2·2, caudæ 1·7. *Junior* fusco-rufescens, subtus dilutior, nigro confertìm undulatus.

Hab. Columbia int.

Mus. P. L. S.

I have four "Bogota" skins of this bird, two in adult and two in young plumage. I have never met with it from any other locality.

Lesson's "*Megalonyx nanus*" is probably intended for this species, and the locality "Chiloe" incorrect. Lafresnaye's *Merulaxis squamiger* may be the young bird.

6. Scytalopus sylvestris.

Scytalopus sylvestris, Taczanowski, P. Z. S. 1874, p. 138.

"Capite collo pectoreque schistaceis; dorso caudâ alisque fusco-brunneis; uropygio lateribus et crisso rufo undulatis; rostro nigro; pedibus brunneis: long. tota 4·4, alæ 2·0."

Hab. Peruv. centr. Pallaypampa et Maraynioc (*Jelski*).

Mus. Varsoviano.

Obs. Similis *S. griseicolli,* sed uropygio et crisso undulatis diversus.

7. Scytalopus indigoticus.

Myiothera indigotica, Max. Beitr. iii. p. 1091.

Malacorhynchus albiventris, Ménétr. Mém. Acad. Pétersb. 1831, p. 525, pl. 13. f. 2, et *M. indigoticus,* ibid. p. 529.

Scytalopus albogularis, Gould, P. Z. S. 1836, p. 90; Jard. et Selb. Ill. Orn. n. s. pl. 20; Jard. Contr. Orn. 1851, p. 116, pl. 78.

Scytalopus albiventris, Jard. Contr. Orn. 1851, p. 116, pl. 76. fig. 2.

Scytalopus indigoticus, Bp. Consp. p. 206; Cab. et Hein. Mus. Hein. ii. p. 20; Scl. Cat. A. B. p. 168; Pelz. Orn. Bras. p. 48; Scl. et Salv. Nomencl. p. 76.

Hypocnemis striativentris, Salvad. Att. Sc. It. vii. p. 159.

S. undulatus, Jard. et Selb. Il. Orn. n. s. sub. tabb. xix. et xx., et Contr. Orn. 1851, p. 117, pl. 76. fig. 1 (avis jr.).

Obscurè plumbeus, uropygio rufescente: subtùs medialiter albus: lateribus et crisso rufis nigro undulatis: rostro superiore nigro, inferiore et pedibus flavis: long. tota 4·5, alæ 2·0, caudæ 1·6. *Jr.* suprà fuscus uropygio nigro undulato: subtùs pectore cinereo, ventre rufo nigroque undulato.

Hab. Brasil. merid.: Bahia (*Max.*); S. Paulo and Mattodentro (*Natt.*).

Mus. P. L. S.

This bird occurs occasionally in collections imported from Bahia. I have two adult and one young specimen, the latter agreeing well with the figures of the supposed *S. undulatus.*

8. SCYTALOPUS ANALIS.

Merulaxis analis, Lafr. Rev. Zool. 1840, p. 104; Contr. Orn. 1851, p. 149 (?).

Agathopus micropterus, Sclater, P. Z. S. 1858, p. 69; Cat. A. B. p. 168.

Scytalopus analis, Scl. et Salv. Nomencl. p. 76.

Obscurè schistaceus, subtùs paulò dilutior: uropygio rufescente: maculâ verticali albâ: lateribus et ventre imo cum crisso rufis nigro undulatis: rostro corneo, pedibus pallidè corylinis: long. tota 5·0, alæ 2·3, caudæ 1·7. *Jr.* suprà rufescens, nigro obsoletè transradiatus; subtùs fuscus; abdomine rufescente, nigro undulato.

Hab. Columbia int. et Æquatoria, ad ripas fl. Napo.

Mus. P. L. S.

This species is rather divergent in structure from its fellows, having a stronger bill, longer and thicker tarsi, and a longer hind toe and claw. When I first obtained specimens of it in one of Verreaux's Napo collections, I proposed to refer it to a new genus and species, *Agathopus micropterus.*

On receiving subsequently a specimen from Bogota, I was enabled to identify it as being probably the *Merulaxis analis* of Lafresnaye, although he gives as locality "Paraguay and Chili." I have also examined a "Bogota" skin of this species in Mr. G. N. Lawrence's collection.

Genus 2. MERULAXIS.

Merulaxis, Lesson, Cent. Zool. p. 88 (1830).

Malacorhynchus, Ménétries, Mon. d. Myiothères, p. 80 (1835).

Platyurus, Sw. Class. B. ii. p. 319 (1837).

Sarochalinus, Cab. Wiegm. Arch. 1847, i. p. 220.

This genus embraces only a single species, belonging to the south eastern wood-region of Brazil. It is allied to *Scytalopus* in general structure, but differs in its longer tail, stronger form, and in the peculiar elongated feathers of the lores.

1. MERULAXIS RHINOLOPHUS.

Myiothera rhinolopha, Max. Beitr. iii. p. 1051.

Merulaxis ater, Less. Cent. Zool. p. 30; Lafr. Contr. Orn. 1851, p. 146.

Malacorhynchus cristatellus, Ménétr. Mém. Acad. Pétersb. 1831, pl. 12.

Platyurus corniculatus, Sw. Orn. Dr. pls. 55, 56.

Sarochalinus ater et *S. rhinolophus,* Cab. in Wiegm. Arch. 1847, i. p. 220.

Scytalopus ater et *S. rhinolophus,* Burm. Syst. Ueb. iii. pp. 61, 62.

Merulaxis rhinolophus, Scl. Cat. A. B. p. 169; Scl. et Salv. Nomencl. p. 76.

Cærulescenti-plumbeus: dorso inferiore alis extùs et ventre cum crisso et lateribus olivacescenti-brunneis: caudâ fuscâ: lororum plumis elongatis exstantibus: rostro superiore corneo, inferiore flavicante: pedibus rufis: long. tota 7·5, alæ 2·6, caudæ 3·5. *Fem.* fusco-rufescens; subtus anticè rufo-cinnamomea, posticè dorso concolor, caudâ obscurâ.

Hab. Brazila merid. orient. regione sylvatica, Rio Belmonte (*Max.*).

Mus. P. L. S.

Genus 3. RHINOCRYPTA.

Rhinomya, Is. Geoffr. et D'Orb. Mag. de Zool. 1832, Ois. pl. 3.

Rhinocrypta, Gray, List of Gen. 1841, p. 25.

This conspicuous form is allied to *Pteroptochus,* but differs in its short bill with much-arched culmen, rather shorter and stronger legs, and in the well-marked divisions of the tarsal scutes. The tail-feathers are twelve in number: the hind claw is short and curved.

1. RHINOCRYPTA LANCEOLATA.

Rhinomya lanceolata, Is. Geoffr. et D'Orb. Mag. de Zool. 1832, Ois. pl. 3; D'Orb. Voy. Ois. p. 194, pl. 7. fig. 1; Darwin, Zool. Beagle, iii. p. 70.

Rhinocrypta lanceolata, Gray, List. of Gen. 1841, p. 25; Bp. Consp. i. p. 205; Burm. La Plata-Reise, ii. p. 471; Sclater, P. Z. S. 1872, p. 543; Scl. et Salv. Nomencl. p. 76.

Ex olivaceo cinerea; capite cristato rufo, plumis albo lanceolatis: subtùs clare cinerea, ventre medio albo, laterali utrinque castaneo: caudâ intus nigrâ: long. tota 8·0, alæ 3·2, caudæ 3·1.

Hab. La Plata occ., Catamarca et Mendoza (*Burm.*); Patagonia bor., Rio Negro (*D'Orb., Darwin,* et *Hudson*).

Mus. P. L. S.

I have skins of this bird from the neighbourhood of Mendoza, collected by Weisshaupt, and from the Rio Negro of Patagonia by Mr. Hudson. The sexes, as determined by the latter, are alike.

The native name of this bird is "*Gallito,*" or little cock, from its mode of carrying the tail upright. Mr. Hudson has given us some good notes on its habits (P. Z. S. 1872, p. 543).

2. RHINOCRYPTA FUSCA. (Plate VIII.)

Rhinocrypta fusca, Sclater et Salv. Nomencl. p. 76.

Rhinocrypta fulva, Philippi, MS.

Suprà pallide murino-fusca unicolor, alis omninò concoloribus: loris superciliis indistinctis et corpore subtùs lactescenti-albis: caudâ nigrâ, rectricibus duabus mediis et reliquarum marginibus dorso concoloribus: subalaribus

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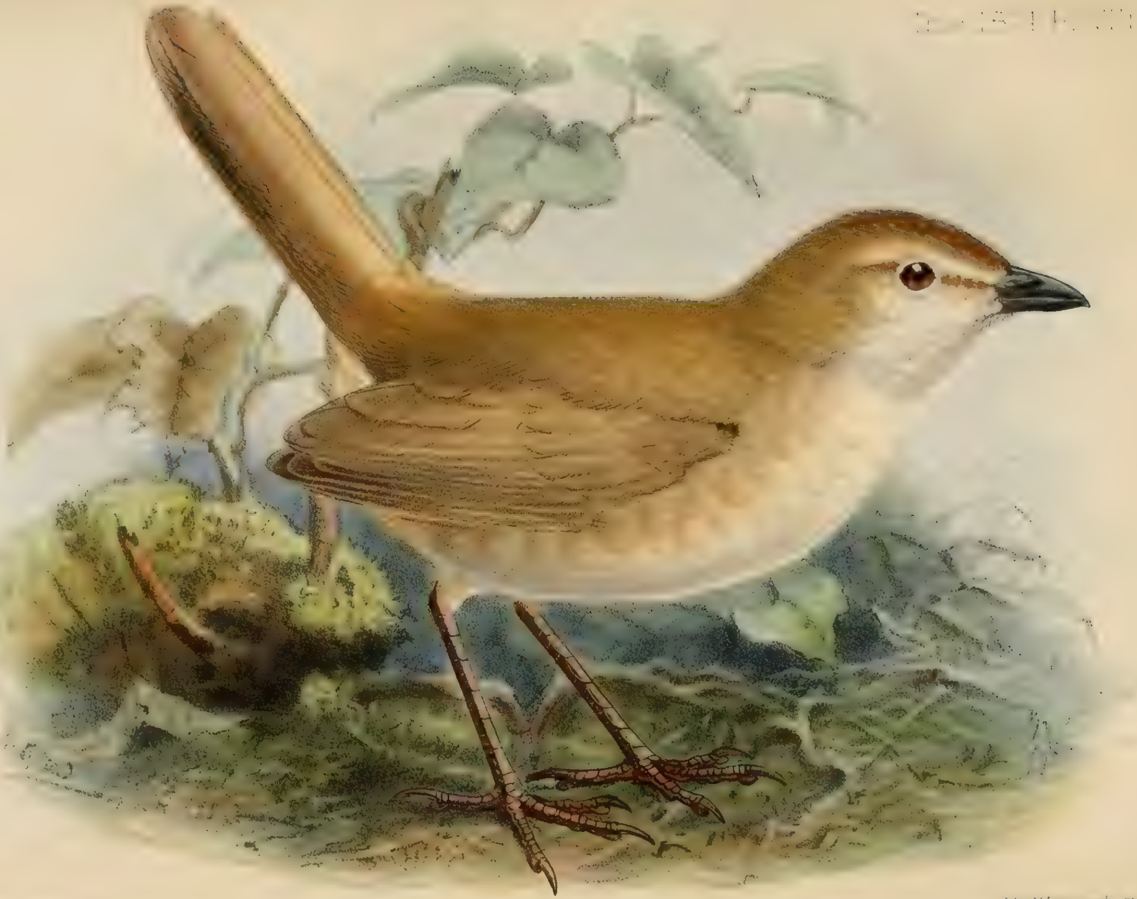


J G Keulemans lith.

M & N Hanhart imp.

RHINOCRYPTA FULVA

AMERICAN MUSEUM
CENTRAL PARK,
NEW YORK,
OF NATURAL HISTORY.

et remigum marginibus internis colore cervino parùm tinctis: rostro et pedibus nigris: long. tota 6·2, alæ 3·2, caudæ 2·5, tarsi 1·1.

Hab. Rep. Argentina, in campis Mendozæ (*Weisshaupt*).

Mus. P. L. S.

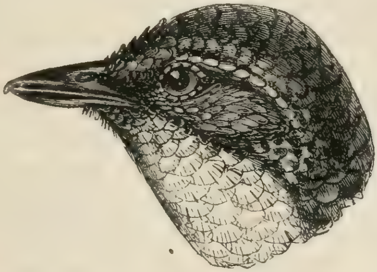
Obs. *Rhinocryptæ* species secunda, colore unicolori prorsùs notabilis.

Of this second species of *Rhinocrypta* (of which a figure is herewith given, Plate VIII.) I obtained a single specimen in 1871 from Mr. Weisshaupt, along with a series of birds which he had collected during an excursion from Santiago into the pampas of Mendoza. Not being able to find any published account of it, I wrote to Dr. Philippi, of the Santiago Museum, to know whether it had been described. Unfortunately Dr. Philippi's answer did not arrive until after the sheet of the 'Nomenclator' containing the description of the bird under the name now employed had been printed off, or I would gladly have adopted Dr. Philippi's MS. appellation, under which I find the bird mentioned in Leybold's 'Excursion a las Pampas Arjentinas' (8vo, Santiago, 1873, p. 5).

Besides its uniform colour, the present species differs from *R. lanceolata* in its smaller size and the absence of the crest, and the hind claw is shorter and straighter.

Genus 4. Liosceles.

Liosceles, Scl. P. Z. S. 1864, p. 609.



Upon reconsideration I think that this singular form, for which I have already suggested a subgeneric appellation, cannot be properly associated with *Pteroptochus*. Besides the straight culmen and up-turned gonys, the almost entire obliteration of the divisions of the tarsal scutes renders it easily distinguishable.

1. LIOSCELES THORACICUS.

Pteroptochus thoracicus, Sclater, P. Z. S. 1864, p. 609, pl. xxxviii.; Pelz. Orn. Bras. p. 46.

Liosceles thoracicus, Scl. et Salv. Nomencl. p. 76.

Suprà fulvo-brunneus, dorso saturatiore; tergi postici plumis laxis elongatis, pallido fulvo et nigro vix conspicue transvittatis: alarum tectricibus albo maculatis, fasciâ submarginali nigricante: subtùs albus; pectore sulphurascente, plumis mediis pallido rufo terminatis, plagam pectoralem formantibus: loris, superciliis et lateribus cervicis albo nigroque variegatis; pectore laterali cum ventre toto brunneis, albo nigroque squamulatis: remigibus et rectricibus fere unicoloribus fuscis; secundariorum externorum marginibus dorso concoloribus; rostro superiore nigro, inferiore albo; pedibus corylinis: long. tota 6·6, alæ 3·0, caudæ 3·0, tarsi 1·1, rostri a rictu 0·8.

Hab. Amazonia in ripis fl. Madeira.

Mus. Vindob. et P. L. S.

This bird in general colours approaches most nearly to *Pteroptochus albicollis* of Chili, but is readily known by the pure white breast and mid-belly and the curious pectoral spot. It is also considerably inferior in size, and rather smaller than *P. rubecula*—hitherto the smallest known species of the genus. The bill (see p. 199) is differently shaped from that of *P. albicollis* or any of its allies: it is short and straight, the culmen being straight nearly to the extremity, and the gonys curved upwards rather rapidly towards the point. It is compressed much as in *P. albicollis*. The tarsi are rather shorter and by no means so strong as in *P. albicollis*, and their anterior surface, as far as I can judge from my single specimen (the feet of which are not in very good order), nearly smooth, the divisions of the scutella being almost obsolete, and nearly imperceptible. The claws are short and curved, as in other members of the genus. The wings are short and rounded, the fifth, sixth, seventh, eighth, and ninth primaries being nearly equal and longest.

Genus 5. PTEROPTOCHUS.

Pteroptochos, Kittl. Mém. prés Acad. Sc. St.-Pét. 1831, p. 178: type *P. rubecula.*

The genus embraces two species confined to Chili, where, however, they are both abundant and well known. The wings in these birds are exceedingly short, and hardly ever used in flight. The divisions of the tarsal scutes are well marked. The hind claw is short and curved. The rectrices are twelve in number: the tail is much rounded.

1. PTEROPTOCHUS RUBECULA.

Pteroptochus rubecula, Kittl. Mém. prés. Acad. Pétersb. 1831, p. 179, pl. 2; Bp. Consp. p. 205; Cab. et Hein. Mus. Hein. ii. p. 20; Gray, Faun. Chil. i. p. 304; Ph. et Landb. Cat. Av. Chil. p. 15; Scl. Cat. A. B. p. 169; P. Z. S. 1867, p. 325; Scl. et Salv. Nomencl. p. 76.

Megalonyx rubecula, Lafr. et D'Orb. Syn. Av. i. p. 16.

Leptonyx rubecula, D'Orb. Voy. Ois. p. 196, et *Megalonyx rufogularis,* D'Orb. ibid. pl. 7. f. 3.

Suprà fuscus, uropygio rufescentiore: superciliis et pectore cum gulâ læte rufis: ventre albo nigroque transfasciato: lateribus et crisso rufescentibus: rostro corneo: pedibus fuscis: long. tota 6·5, alæ 2·9, caudæ 2·7.

Hab. Chilia merid. et ins. Chiloe (*Darwin*).

Mus. P. L. S.

This is the "*Cheucau*" of the Chilians. It extends from Colchagua southwards to Chiloe, frequenting the damp forests. For an account of its habits see Darwin, Zool. Beagle, iii. p. 73.

2. PTEROPTOCHUS ALBICOLLIS.

Pteroptochus albicollis, Kittl. Mém. prés. Acad. Pétersb. 1831, p. 180, pl. 3; Bp. Consp. p. 205; Darw. Voy. Beag. Zool. iii. p. 72; Cab. et Hein. Mus. Hein. ii. p. 21; Gray, Faun. Chil. i. p. 303: Burm. La Plata-Reise, ii. p. 471; Ph. et Landb. Cat. Av. Chil. p. 15; Scl. Cat. A. B. p. 169; P. Z. S. 1867, p. 325; Scl. et Salv. Nomencl. p. 76.

Megalonyx medius, Less. Ill. de Zool. pl. 60.

Megalonyx albicollis, Lafr. et D'Orb. Syn. Av. i. p. 15.

Leptonyx albicollis, D'Orb. Voy. Ois. p. 196, pl. 8. f. 2.

Suprà fuscus, uropygio et caudâ extùs rufescentibus; superciliis et gulâ cum pectore et ventre medio albis, his nigro transfasciatis: lateribus et ventre imo rufescentibus nigro transfasciatis: rostro et pedibus nigris: long. tota 7·8, alæ 3·0, caudæ 3·3.

Hab. Chilia centralis (*Darwin*).

Mus. P. L. S.

The "*Tapacolo,*" as this species is called, replaces its congener in Central and Northern Chili.

The pelvis and abnormal sternum of this bird are figured in Eyton's 'Osteologia,' pl. xiv. fig. 2: there are also remarks on its osteology and soft parts by the same author in Zool. Voy. Beagle, iii. p. 151.

Genus 6. HYLACTES.

Hylactes, King, P. Z. S. 1830, p. 15: type *H. tarnii.*

Megalonyx, Lesson, Cent. Zool. p. 200 (1830): type *M. rufus* (=*H. megapodius*).

Leptonyx, Sw. Zool. Ill. ser. 2, pl. 117 (1831–32): type *H. megapodius.*

In general appearance *Hylactes* is a strong form of *Pteroptochus,* differing principally in its larger feet and elongated hind claw, and in possessing fourteen rectrices. It is likewise restricted to Chili.

1. HYLACTES TARNII.

Hylactes tarnii, King, P.Z.S. 1830–31, p. 15; Cab. et Hein. Mus. Hein. ii. p. 21; Scl. et Salv. Ex. Orn. p. 58; Ibis, 1869, p. 283, et Nomencl. p. 76.

Megalonyx ruficeps, Lafr. et D'Orb. Syn. Av. i. p. 16; D'Orb. Voy. Ois. pl. 8. f. 1.

Leptonyx tarnii, D'Orb. ibid. p. 198.

Pteroptochus tarnii, Darw. Voy. Beagle, Zool. iii. p. 70; Gray, Faun. Chil. i. p. 304; Phil. et Landb. Cat. Av. Chil. p. 14.

Obscurè schistaceus: pileo summo, dorso postico et ventre castaneis, uropygii laterum et ventris imi plumis nigro transfasciatis: rostro et pedibus nigris: long. tota 9·3, alæ 4·0, caudæ 3·5. *Fem.* mari similis.

Hab. Chili, from Concepcion to the peninsula of Tres Montes (*Darwin*); Chiloe and Gulf of Peñas (King); Valdivia (*D'Orb.*); Halt Bay, Western Patagonia (*Cunningham*).

Mus. P. L. S.

The Indian name of this species in Chiloe is "*Guid-guid.*" Mr. Darwin has given us an interesting account of its habits (Zool. Voy. Beagle, iii. p. 71).

The anatomy and osteology of *P. tarnii* have been described by Eyton (Voy. Beagle, iii. p. 150, et Ost. Av. p. 98).

2. HYLACTES CASTANEUS.

Pteroptochus castaneus, Phil. et Landb. Wiegm. Arch. f. Nat. 1865, pp. 56 et 121, et Cat. Av. Chil. p. 14.

Hylactes castaneus, Sclater, P. Z. S. 1867, p. 325; Scl. et Salv. Ex. Orn. p. 58, t. xxix.

Pteroptochus tarnii, Scl. Cat. A. B. p. 170 (*err.*).

Suprà olivaceo-cinerascens, alis extùs rufescenti-olivaceis, tectricum majorum et secundariorum apicibus pallidis; uropygii plumis elongatis, castaneo tinctis, fasciâ subapicali nigrâ, ochraceo terminatis: caudâ nigrâ: fronte, superciliis et corpore subtùs ad medium pectus castaneis: oculorum ambitu sordidè albo: abdomine medio cinereo, castaneo variegato: crisso nigro et castaneo transfasciato: rostro et pedibus nigris: long. tota 9·0, alæ 4·2, caudæ 2·6.

Hab. Rep. Chiliana, prov. Colchagua.

Mus. P. L. S.

So far as is known this species is only found in the Andes of the province of Colchagua, at an elevation of about 5000 feet above the sea-level. It is well figured in 'Exotic Ornithology.'

3. HYLACTES MEGAPODIUS.

Pteroptochus megapodius, Kittl. Mém. prés. Acad. Pétersb. 1831, p. 182, pl. 4; Darw. Voy. Beagle, Zool. iii. p. 71; Gray, Faun. Chil. i. p. 302; Ph. et Landb. Cat. Av. Chil. p. 14; Scl. Cat. A. B. p. 169.

Megalonyx rufus, Less. Cent. Zool. pl. 66; Lafr. et D'Orb. Syn. Av. i. p. 16.

Leptonyx macropus, Sw. Zool. Ill. n. s. pl. 117; D'Orb. Voy. Ois. p. 197.

Hylactes megapodius, Gray, Gen. Birds, i. p. 154; Cab. et Hein. Mus. Hein. ii. p. 21; Scl. et Salv. Ex. Orn. p. 56, et Nomencl. p. 76.

Suprà fuscus, in uropygio rufescens: superciliis mento et gulæ lateribus albis: gulâ mediâ cum pectore ferrugineo-rufis: abdomine albo, lateraliter et in crisso rufescente fusco transfasciato: long. tota 9·0, alæ 3·7, caudæ 2·9. *Fem.* mari similis.

Hab. Chilia centralis et borealis (*Darwin*).

Mus. P. L. S.

"This bird is common in the dry country of Central and Northern Chili, where it replaces *H. tarnii* of the thickly wooded southern regions. The *H. megapodius* is called by the Chileños "*el Turco.*" (*Darwin.*)

In general plumage the present species looks like a large edition of *Pteroptochus albicollis.*

Genus 7. ACROPTERNIS.

Acropternis, Cab. et Hein. Mus. Hein. ii. p. 20.

This very remarkable type is readily known by the extraordinary flat oval shield into which the culmen is developed, and the long straight hind claw. Its ocellated plumage is likewise unique among the Passeres.

1. ACROPTERNIS ORTHONYX.

Merulaxis orthonyx, Lafr. Rev. Zool. 1843, p. 131; Mag. de Zool. 1844, Ois. pl. 93.

Triptorhinus orthonyx, Cab. Wiegm. Arch. 1847, i. p. 220; Scl. P. Z. S. 1855, p. 142; Bp. Consp. p. 206.

Pteroptochus orthonyx, Gray, Gen. Birds, i. p. 155.

Acropternis orthonyx, Cab. et Hein. Mus. Hein. ii. p. 20; Scl. Cat. A. B. p. 169; Scl. et Salv. Nomencl. p. 77.

Ommatornis orthonyx, Sclater, MS.

Fuscescenti-niger, albo distinctè guttatus: capite antico et laterali cum gulâ et collo toto necnon dorso postico saturatè rubiginoso-rufis: remigibus et rectricibus fusconigris immaculatis: rostro et pedibus corneis; mandibulâ inferiore ad basin flavidâ : long. tota 8·0, alæ 3·8, caudæ 3·2.

Hab. Columbia int. et rep. Æquator.

Mus. P. L. S.

Genus 8. TRIPTORHINUS.

Triptorhinus, Cab. Wiegm. Arch. Jahrg. x. i. p. 219 (1847).

This type is perhaps more like *Scytalopus* in general appearance, but has, although to a lesser degree, the same curious development of the culmen. The hind claw is moderately long and curved.

1. TRIPTORHINUS PARADOXUS.

Troglodytes paradoxus, Kittl. Mém. prés. Acad. St. Pét. 1831, p. 184, pl. v.

Malacorhynchus chilensis, Ménétr. Mon. des Myiothères, p. 85.

Platyurus lepturus, Sw. Class. ii. p. 319.

Leptonyx paradoxus, D'Orb. Voy. Ois. p. 197.

Triptorhinus paradoxus, Cab. Orn. Not. p. 219 : Bp. Consp. p. 205 ; Cab. et Hein. Mus. Hein. ii. p. 20 ; Scl. et Salv. Nomencl. p. 77.

Merulaxis paradoxus, Lafr. Contr. Orn. 1851, p. 146.

Pteroptochus paradoxus, Gay, Faun. Chil. p. 305.

Scytalopus magellanicus, Ph. et Landb. Cat. Av. Chil. p. 14.

Schistaceus, subtùs paulo dilutior : uropygio ventre imo et crisso rufis : rostro nigro, mandibulâ inferiore ad basin flavidâ : pedibus flavicanti-corylinis : long. tota 5·0, alæ 2·4, caudæ 1·8. *Fem.* mari similis. *Jun.* Fuscus, fasciis transversis rufescentibus : subtùs magis ochraceus nigro transfasciatus et punctatus.

Hab. Chilia merid., Valdivia (*Landbeck*).

APPENDIX OF DOUBTFUL SPECIES.

(1.) *Sylviaxis guttatus,* Lesson, Rev. Zool. 1840, p. 274, is apparently founded upon the young of some species of *Scytalopus.* No locality is given.

(2.) *Scytalopus femoralis,* Tsch. Faun. Per. Aves, p. 182.

(3.) *S. acutirostris,* ibid. p. 183.

Both from Eastern Peru.

These are unknown to me, and not to be recognized certainly without examination of the typical specimens.

The subjoined Table shows the distribution of the Pteroptochidæ in America.

	Columbia and Ecuador.	Peru.	Chili and W. Patagonia.	Argentine Republic & Northern Patagonia.	S.E. Brazil.	Madeira valley.
1. *Scytalopus magellanicus*			—			
2. —— *speluncæ*					—	
3. —— *senilis*	—					
4. —— *obscurus*			—			
5. —— *griseicollis*	—					
6. —— *sylvestris*		—				
7. —— *indigoticus*					—	
8. —— *analis*	—					
9. *Merulaxis rhinolophus*					—	
10. *Rhinocrypta lanceolata*				—		
11. —— *fulva*				—		
12. *Liosceles thoracicus*						—
13. *Pteroptochus rubecula*			—			
14. —— *albicollis*			—			
15. *Hylactes tarnii*			—			
16. —— *castaneus*			—			
17. —— *megapodius*			—			
18. *Acropternis orthonyx*	—					
19. *Triptorhinus paradoxus*			—			
	4	1	8	2	3	1

XXIV.—*On* Coryllis regulus *and* C. occipitalis, *an apparently new Species.* By O. Finsch, Ph.D., C.M.Z.S.

Through the kindness of Count Hercules Turati, of Milan, I have received for examination a pair of a species of *Coryllis,* from the island of Negros, collected by Dr. A. B. Meyer in April 1872, which, after a careful examination, I find to belong to *C. regulus,* Souancé, as already stated by Dr. Sclater (Ibis, 1872, p. 324). In examining these specimens I find that the true *C. regulus,* described by Souancé (from a male specimen of unknown locality), differs a good deal from the one described by me erroneously under this appellation, from a specimen in the British Museum, brought by the late Mr. Cuming from Mindanao. I therefore consider it necessary to separate the two species as follows:—

1. Coryllis regulus.

Loriculus regulus, Souancé, Rev. & Mag. Zool. 1856, p. 222.

Licmetulus regulus, Bp. Naumania, 1856, Heft iv.

Loriculus regulus, Martens, Journ. f. Orn. 1866, p. 21; Sclater, Ibis, 1872, p. 324 (Negros, Panay).

Male. Grass-green, underparts lighter; front and sinciput bright cinnabar-red, vertex golden yellow; at the base of the nape a spot of dark orange-red; rump and upper tail-coverts dark scarlet-red; a large oblong gular patch bright cinnabar-red, with yellow base of feathers; quills black, on the outer web dark green, beneath ultramarine blue; under wing-coverts dark green; tail-feathers dark green, beneath dark ultramarine blue; bill coral-red; feet flesh-brown, nails dark.

Female. Like the male; the forehead also red, but the vertex green, with some yellow edgings of single feathers; the feathers on the base of mouth and around the lower mandible at their ends changing into light marine blue; the throat-patch not red, but greenish yellow, ill defined. Bill and feet as in the male.

Long. alæ.		caud.	culm.	Alt. rostr.	Long. tars.	dig. ext.	
in.	lin.	lin.	lin.	lin.	lin.	lin.	
3	4	19	6½	5	5½	6	♂
3	3	21	6	4½	5½	6	♀

C. regulus differs from its near ally, *C. culacissi* (Wagl.), from Luzon, in having the crown bright golden yellow and a much darker orange-red patch on the nape. The female (not previously described) resembles very much the female of *C. culacissi,* but may be distinguished by the darker nape-patch, and the narrow light blue line round the mouth and lower mandible, which in *C. culacissi* is of a more decided blue and much broader, covering the whole loral region and chin.

This species inhabits the islands of Negros and Panay, where it has been collected by Dr. A. B. Meyer, to whom we are indebted for the knowledge of the exact habitat. Mr. L. C. Layard seems not to have observed this species during his stay on the island of Negros, as it is not included in the valuable list of his birds published by Lord Walden (*vide* Ibis, 1872, pp. 93–107).

2. CORYLLIS OCCIPITALIS, sp. nov.

Loriculus regulus, Gray (nec Souancé), List B. Brit. Mus. Psitt. 1859, p. 56; Wallace, P. Z. S. 1864, p. 288.

Coryllis regulus, Finsch, Papag. ii. 1868, p. 710 (part).

L. regulus, Gray, Handl. iii. p. 252 (Mindanao).

In every respect like the foregoing species, except that the bright golden yellow of the vertex extends to the occiput.

Female unknown.

Hab. Mindanao (*Cuming*).

Having had no opportunity of seeing the type of Souancé, I was, until lately, of opinion that the species in the British Museum was (as labelled by the late G. R. Gray) the true *C. regulus*; and I considered the differences in the amount of yellow on the head only individual. But, as I have shown above, we now know the true habitat of *C. regulus* to be the islands of Negros and Panay, and, in consequence of the differences, explained above, may regard the Mindanao bird as of a different species.

I should mention that there is another specimen in the British Museum labelled *L. regulus,* and also described by me (Papag. p. 711), which shows not only the vertex and occiput yellow, but also the hind neck and nape. In this respect it comes near to *C. chrysonotus,* Scl. (Ibis, 1872, p. 324, t. xi.), from Cebu; but this latter has no orange-red spot on the nape, so that the specimen in the British Museum, without exact locality, may possibly turn out to belong to another undescribed species of this group, as we are still far from being well acquainted with the avifauna of the various islands of the Philippine archipelago.

XXV.—*Remarks on the Extinct Birds of New Zealand.*

By Julius Haast, Ph.D., F.R.S.*

I have hitherto refrained from publishing any of my notes on the researches made during a number of years upon the accumulated treasures obtained in the turbary deposits of Glenmark, except a list of measurements of leg-bones of different species in the first volume of our 'Transactions,' and the description of the bones of the remarkable genus *Harpagornis,* in vol. iv., always expecting that Professor Owen, whose truly classical labours have laid the foundations of the edifice to which present and future researches will only form additions, would himself review the whole subject at length.

Finding, however, that, instead of doing so, that illustrious comparative anatomist is inclined to unite, as it were, all the principal species with a struthious character into one genus under the general term of *Dinornis,* dropping altogether the name *Palapteryx,* I feel that I should not do my duty if I were to hold back the following notes any longer.

If it were our good fortune that Professor Owen could have access to the rich material which is exhibited in the Canterbury Museum, I am sure he would never have united under one genus a number of species which show such a remarkable diversity of character; but as his description of single bones of some species, or at most of portions only of others, were given during a considerable space of time, ranging over more than thirty years, I can easily understand that Professor Owen will find every day, as the material increases, greater difficulty in making himself acquainted with all the details, without having access to as complete a series as we possess in the Canterbury Museum for reference. Such a series would have afforded him at a glance a confirmation that the new arrangement which I venture to propose in the following notes, is not based altogether upon unsound principles.

I am well aware that there are still many naturalists who think that the division of the bones of our extinct avifauna into so many species is a mistake, and that future researches will prove that what appeared to Professor Owen as several well-defined species, were, after all, only various stages of age and growth of one and the same kind. However, in this respect the collections of the Canterbury Museum bear a strong confirmation of the correctness of the great English anatomist's conclusions. We possess, not only young bones of each species, from the chick to the full-grown bird, where (to take only one bone as guide) the tarsal epiphysis of the metatarsus is not yet quite anchylosed*, but we have of each species a series of specimens generally showing two distinct sizes, from which we may conclude that they represent the male and female bird of each species. In some instances (of which I shall speak more fully in the sequel) we possess of each species four distinct sizes, which might represent the two sexes of two distinct but closely allied species.

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* Reprinted from Dr. Haast's Presidential Address to the Philosophical Institute of Canterbury, New Zealand, delivered March 5th, 1874.

Although Professor Owen thinks that the back toe (hallux) was only a small functionless appendage to the foot and that thus the existence or non-existence of such bone is of no consequence, and has therefore felt obliged to abandon this ground of generic distinction, I am more convinced than ever that it is of great importance, and that the principal division of our extinct struthious birds has to be based upon this, as I believe, constant character†.

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* We possess, amongst others, the leg-bones of a specimen of *Dinornis maximus* which is in size only second to the largest bones we have, but in which this immature character in the metatarsus is not yet quite effaced.

† I formerly believed that an impression observed on the back of one of the first metatarsals of *Dinornis ingens* I ever obtained was there for the articulation of the back trochlea; but since then several more specimens of that species have passed through my hands which showed that impression either only faintly or not at all. Dr. Jaeger, of Vienna, articulated a small back trochlea with the skeleton of *Dinornis ingens* found in the Moa-cave of Nelson; but there is no evidence that the small bone in question belonged to it. In my first paper of measurements, on p. 85 of the first volume of the 'Transactions' of the New Zealand Institute, I already pointed to the distinct rough groove which *invariably* exists at the back of the metatarsus of a number of species, which I have now ventured to unite under the term *Palapterygidæ*. I may add that a num-

If we add to this all the other distinctive features, which I shall enumerate in the sequel, such as the existence or non-existence of a bony scapulo-coracoid, the shape of the sternum and of the bill, and many others, the presence or absence of a hallux becomes of still more importance.

And I might add here another important peculiarity in these two main divisions, which was first pointed out to me by Mr. Fuller, and which is of great practical value when examining even the smallest bones. Mr. Fuller has found that in the mere handling of the bones a great difference is at once to be detected amongst those coming from the very same spot. Thus the remains of *Palapteryx* are harder, and have resisted more effectually the influence of time than those of *Dinornis*; the exterior dense crust is far stronger and thicker, and is less smooth than in the latter. Moreover the bones of the Palapterygidæ are not quite so porous as those of the Dinornithidæ, and consequently are heavier in proportion.

After these few introductory observations I now proceed to lay before you the scheme after which I propose grouping together the different species of our extinct struthious birds, giving at the same time some of the principal distinctive features of each group:—

A. Family DINORNITHIDÆ.

a. Genus Dinornis.

Metatarsus long, no hallux, pelvis narrow, sternum longer than broad, convex, with constant and well-marked coracoid depressions for the scapulo-coracoid bone; narrow and straight anterior crest, costal processes slightly developed, lateral processes standing at a less angle than in the Palapterygidæ. Existence of a bony scapulo-coracoid; beak nar-

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ber of back trochleæ in the possession of the Canterbury Museum, as to form and size, agree in a remarkable degree with the form and size of the bones of the different species belonging to that family. It would be strange if this striking coincidence, together with the rough grooves previously alluded to, should have misled me.

row and pointed; three intercostals; skeleton altogether of a more slender stature than in any of the Palapterygidæ:—

1. *Dinornis maximus.*
2. *Dinornis robustus.*
3. *Dinornis ingens.*
4. *Dinornis struthioides.*
5. *Dinornis gracilis.*

b. Genus Meionornis[*].

Metatarsus long, no hallux, pelvis narrow, like *Dinornis*, and the whole skeleton altogether more slender than in any of the Palapterygidæ. Sternum convex, longer than broad, with a broad and well-curved anterior border; costal processes well developed, no coracoid depressions; bony scapulo-coracoid absent, beak well pointed, and even narrower than in *Dinornis*.

1. *Meionornis casuarinus.*
2. *Meionornis didiformis.*

B. Family PALAPTERYGIDÆ.

a. Genus Palapteryx.

Metatarsus very short and broad, with hallux and hind toe; distal trochleæ remarkably broad and divergent; tibia with both extremities largely developed and standing inward, so as to give the skeleton a bow-legged appearance. Pelvis very broad and like the bones of the leg, and the rest of a truly pachydermal character; bill very obtuse and rounded at the tip; sternum flattened, broader than long, with a strong costal process, lateral processes standing at a higher angle than in any of the Dinornithidæ; no coracoid depressions in aged specimens; no bony scapulo-coracoid, two intercostals only.

1. *Palapteryx elephantopus.*
2. *Palapteryx crassus.*

b. Genus Euryapteryx[†].

Metatarsus short and broad, but not so pachydermal as the former, with a hallux and hind toe; tibia straighter and without the extremities so enlarged as in *Palapteryx*; sternum longer than broad, more concave than the former genus, without coracoid depressions, but with strong and long costal processes, mesial portion and process comparatively longer than in all the former subdivisions, no bony scapulo-coracoid, beak not so obtuse as in the former.

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[*] From μεῖον, less, and ὄρνις, bird.

[†] From εὐρὺς broad, and ἄπτερυξ without wing.

1. *Euryapteryx gravis.*
2. *Euryapteryx rheides.*

In the preceding list I have only entered those well-defined species of which we possess ample material for comparison and generalization, leaving several others, of which we obtained only portions, for a future notice; but amongst them I may at least allude to one species which appears to approach the Emu of Australia in its general characteristics.

I had also formed the intention to add some notes on the crania of the different genera, but fear that it would make this address too long were I to give them here.

However, before proceeding, there is one point to which I wish to draw your attention—namely, to the existence or absence of a bony scapulo-coracoid. In the genus *Dinornis* we find deep and well-defined coracoid depressions in the anterior border of the sternum of each species; and the excavations have furnished us with a series of scapulo-coracoids which fit exactly into these depressions. Moreover these small and peculiar bones, by their form and size, agree also in other respects well with the different species enumerated. However, when we examine the sternums of the genus *Palapteryx,* and principally that of *Palapteryx elephantopus,* we meet some with well-marked depressions, others with only faint ones; whilst there are others, belonging apparently to aged birds, where there is not the least appearance of them. Again, we possess a few sternums in which a depression exists on the one side, whilst it is missing on the other; so that we are compelled to conclude that no bony scapulo-coracoid could articulate with them.

Moreover we have never found any scapulo-coracoids of a different form from those articulating with the five species of *Dinornis*; and as we have obtained a number of the most minute bones of the smallest species, it would be difficult to conceive that a bone of such considerable size should altogether have escaped, the more so as so many specimens of *Palapteryx* were excavated. And, although this is only negative evidence, it is so strong that there is not the least doubt in my mind of the non-existence of a bony scapulo-coracoid. The same might indeed have existed in a cartilaginous form, attached to the sternum by cartilage; but of this we have no evidence. I am well aware that on physiological grounds the presence of that bone seems to be indispensable for the mechanism of respiration in birds, as Professor Owen has shown from his dissection of *Apteryx*, and he has lately again called my attention to the fact (letter to me, dated British Museum, Aug. 5, 1873); but, with the data at present before us, I cannot alter my views, the more so as I do not deny that such a process might have existed as cartilage.

It will be seen from the subdivisions given above that I have not used the term *Dinornis giganteus*, as there seems to be a specific difference between the species of that name from the Northern island, to which that term was first given by Professor Owen, and the largest bird of this island. In this I have followed Professor Owen, who has proposed the specific term of *Dinornis maximus* for the latter, which appears to have been altogether of more gigantic proportions than the Northern-island bird. I was once under the impression that a specific difference could be traced between the largest skeletons known, for which the above term, *maximus*, was first used by Professor Owen, and the somewhat smaller skeletons for which for some time the designation *giganteus* was retained by me; but after a careful examination of a number of skeletons, there remains not the least doubt in my mind that they belong all to the same species, with a gradual decrease of size and robustness.

And even assuming that the largest skeletons belonged to the female birds, a similar considerable difference in size being also constant with the different species of *Apteryx*, there are so many intermediate forms, that even the supposed line of division between both sexes is exceedingly difficult to draw. Moreover (and this is peculiar to *Dinornis maximus*) there are scarcely two skeletons entirely alike; there are some which have a remarkably long metatarsus, whilst the other leg-bones do not (at least at the same rate) increase in size; others are much stouter for their height. Altogether we might trace the same peculiarity in size and form as in a series of human skeletons selected at random.

The same is the case with the skeletons of the immature birds of this species, of which we possess portions from the chick to the full-grown giant bird, where the tarsal epiphysis is not yet so closely united with the metatarsus, that the line of junction is still visible, where also a similar variety of form can be traced.

The difference in size between *Dinornis maximus* and *Dinornis robustus,* the next in size, is very marked and constant. Of the latter we obtained a series of two sizes, of which the largest might be assigned to the female.

Between *Dinornis robustus, ingens, gracilis,* and *struthioides,* besides their well-defined specific characters, there are also distinct breaks, each species possessing at the same time two constant sizes.

Of *Meionornis casuarinus* a series of four clearly defined sizes are in our possession; so that we might conclude that we have two closely allied species before us, of which the two largest sizes represent male and female of the one, and the two smaller male and female of the other.

A considerable difference in size occurs between the smallest species of *Meionornis casuarinus* and the largest species of *Meionornis didiformis.* In the latter we can distinguish also four sizes, with a gradation similar to that observed in the former; so that I am led to believe that this species, like *Meionornis casuarinus,* consists of two subspecies.

If we compare two skeletons of *Apteryx australis,* male and female, and two of *Apteryx owenii,* male and female, with each other, a similar distinct gradation is observable.

Palapteryx elephantopus has also four well distinguishable subdivisions, of which the largest size is the most conspicuous and best marked; so that the suggestion ventured concerning two subspecies belonging to *Meionornis casuarinus* and *didiformis* applies equally to this remarkable extinct bird.

The division between this and the next species, *Palapteryx crassus*, is well marked, consisting, moreover, of two constantly maintained sizes.

Euryapteryx gravis and *E. rheides*, which can easily be distinguished at a glance from each other, not only by their size, but by their anatomical characteristics, consist each of two sizes only, which, as I suppose, is to be attributed likewise to difference of sex.

Amongst other species of extinct birds of which the Glenmark turbary deposits have yielded remains, there is first the huge diurnal bird of prey which I described under the specific term of *Harpagornis moorei*. Another remarkable species is a Ralline form of gigantic size, *Aptornis*, of which we have obtained sufficient material for articulation, and which is closely allied to *Ocydromus*, the Woodhen.

The remains of *Cnemiornis* (a gigantic goose, as first pointed out by Dr. Hector) have hitherto been very scarce, so that we possess only a few bones of it. It is remarkable that the excavations, undertaken during a number of years, did not yield a single bone of *Notornis*, which, therefore, did either not inhabit this part of the country, or was of extremely rare occurrence.

Of other species we have obtained bones of *Apteryx*, *Strigops*, *Ocydromus*, *Himantopus*, *Botaurus*, *Hæmatopus*, several species of Ducks, and of a number of still smaller birds, which cannot be distinguished from bones belonging to recent species. The remarkable fringed lizard, *Hatteria punctata*, was also an inhabitant of this island, as several bones belonging to it were found with the Moa bones.

Professor Owen having described at some length in several of his memoirs on *Dinornis* the affinities our struthious birds bear with those of other countries, pointing out at the same time the peculiarities through which they vary from them, it would have been unnecessary for me to add any thing to the subject, had not lately the attempt been made by Professor Alphonse Milne-Edwards, in Paris, to show, from a comparison of the remains of the extinct ornithic fauna exhumed in Madagascar, Mauritius, and Rodriguez, that in some distant ages New Zealand formed portion of a large continent or of a group of more or less extensive islands in the southern hemisphere, which at one time were in some way connected with each other.

He thinks that additional confirmation can be obtained from the ascertained occurrence of different Ocydromidæ, such as the *Aphanapteryx* and the *Miserythrus leguati,* which latter, he informs me (letter to me, dated " Jardin des Plantes, Paris, Aug. 3, 1873"), bears close resemblance to our common Woodhen (*Ocydromus australis*).

However enticing the tracing of close affinities must be to the naturalist-philosopher, I believe that it would be rather rash to conclude the connexion of two such distant insular groups from a few forms of birds only. Leaving the general question alone for the present, to which I shall return shortly, it is impossible for me to conceive that two countries, which in all other respects have such a dissimilar and distinctive flora and fauna could have been united in any way without having left other living proofs of such connexion in their present endemic organic life, not to speak of fossil remains.

We know that Madagascar is a zoological subprovince of South Africa (Ethiopian region), but having a fauna so peculiar that, according to Sir Charles Lyell, it must have been separated from Africa probably since the Upper Miocene era.

New Zealand, on the other hand, although it may have been formerly of larger extent, has never been more than an oceanic continental island from a zoological point of view—a theory first propounded by Darwin and Wallace, and with which I fully agree.

It would be rather a difficult task to prove upon such slender grounds as the presence of a few species of struthious and ralline birds will afford, that both countries could possibly have been connected. Moreover the difference in the anatomical structure of the three Madagascar species of *Æpy-*

ornis and of the New-Zealand Dinornithidæ (using this latter term in a general sense) is so enormous that I fail to see how they possibly could prove that connexion in any way.

I cannot agree with Professor Alphonse Milne-Edwards, that the *Æpyornis* stands nearer to *Dinornis* than to the Ostriches, Casuaries, and Emus, except that the fossil bones of Madagascar and New Zealand have a more pachydermal type than the recent species named. But I may point out that the fossil *Dromornis australis,* of Australia, shows similar characteristics; and I am sure, if fossil remains of struthious birds in beds of postpliocene age were discovered in Africa, America, and Asia, that they would exhibit a similar pachydermal character.

Judging from Professor Milne-Edward's own excellent memoirs on *Æpyornis,* and the fine casts of the unique fossil bones in the Paris Museum he was good enough to send to to the Canterbury Museum, I am unable to trace their relationship with our Dinornithidæ. It appears to me that the Madagascar species are separated from the former by many fundamental differences, such as (to point out only a few) the pneumatic foramen in the femur and the straightness of the trochleæ of the metatarsus.

And although I am convinced that the struthious character of *Æpyornis* has sufficiently been proved by the eminent Paris comparative anatomist, I can easily understand that there was at first some show of reason for placing it amongst the Sarcorhamphous Vultures, as has been done by Professor Bianconi.

However, speaking of the principle itself, I wish to point out that, if we were to decide from a few isolated species in two distant countries which show some or even a close resemblance to each other that these countries must have once been connected in some way, we should in many instances form erroneous conclusions. We might as well say that, because there are struthious birds in Australia, the Malay archipelago, Africa, America, and Asia, all these countries must have been connected with New Zealand—or because marsupial remains have been found in Europe, and several species of opossums are living in America, these countries had also been united with Australia.

Speaking from a general point of view, I wish to add that the attempts to trace the geographical relations of a fauna and flora of a country can easily be exaggerated, and thus a theory be ridden to death which otherwise would be very useful.

Moreover an unfortunate country, such as New Zealand, of which a good number of the species of its fauna and flora show great resemblance to other species from distant countries, has to be dipped down and brought up again a great many times in order to establish connexions in various directions, so that a bird or fish, a shell, insect, or centipede might cross from the one to the other, moreover, without allowing any other species from the same country to pass.

Besides, the geological record of these islands at present at our disposal does not warrant us to assume such repeated changes in the level of the land.

Cannot the explanation of such close specific resemblance be found, in many instances at least, in the adoption of more simple natural causes, such as the transport by icebergs, or on floating islands, by birds, &c., of which Sir Charles Lyell, in his great work, the 'Principles of Geology,' gives many striking instances?

However, where the theory of land-connexion is not admissible, and where also others, which have hitherto been applied, fail, might we not assume that similar climatic and other physical conditions could produce similar specific characters under the great law of evolution?

It is a most difficult problem to say what constitutes a species; and therefore might it not be safer to believe, until the impossibility of such an hypothesis has been demonstrated satisfactorily, that there exists a *similitude* as well as an *identity* of species under certain given conditions?

In one word, might we not throw out the conjecture that in two more or less distant countries, which never were directly united, some forms of organic life can and do exist which show what to us appears identical specific characters, because the cause or causes of their evolution were identical or nearly identical? and thus a considerable number of supposed changes in the level of many countries, of which we do not find geological records, can be dispensed with.

It is true that instances to be explained by the migration or accident theories are of more frequent occurrence and more easily proved; but I think it would be just as interesting, where these cannot be admitted, to trace in all its bearings the similitude of species in distant countries. This view would, at least, open up a field of fresh research, and afford a new illustration and confirmation of the great theory of evolution.

XXVI.—*On the Nidification of certain Indian Birds.*—Part III.[*] By Andrew Anderson, F.Z.S.

The Nukta or Comb-Duck (*Sarkidiornis melanonotus*), the Whistling Teal (*Dendrocygna arcuata*), and the Cotton-Teal (*Nettapus coromandelianus*) are non-migrant, and breed throughout the plains of India during the "rains," viz. from July to September, according to locality.

These Ducks, according to my experience, nest almost exclusively on trees; and they are, so far as nidification is concerned, essentially perching Ducks. They begin to pair early in June, and may be seen flying about in search of a suitable tree almost simultaneously with the first fall of rain, which generally occurs in the north-western provinces on or about the 18th of that month.

SARKIDIORNIS MELANONOTUS.

This curious and handsomely coloured Duck deposits its eggs in holes of old deciduous trees, and never, I should say, "in grass by the sides of tanks &c.," as stated by Jerdon. The male bird (as in fact do all the others) assists the female in the selection of a site. I have frequently watched both birds flying into trees together, the male uttering a harsh grating noise, while his mate is left behind on inspection duty.

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[*] For Part II. see Ibis, 1873, p. 74.

Although the Nuktas nest by preference in trees, I have known their doing so in holes of old ruined forts; as a general rule they select localities in close proximity to water.

I have no actual proof of their appropriating old nests, as is frequently done by the Whistling Teal; but it is worth mentioning that a nest of *Haliaëtus leucoryphus*, which I had examined last winter for the eggs of *Ascalaphia bengalensis*, and which was *at the time* tenanted by this Owl, actually contained seven or eight rotten eggs which are, in my opinion, referable to this Duck.

The number of eggs seems to vary considerably; fifteen and twenty have been brought to me from one nest, the advanced state of incubation clearly indicating that in all cases the full complement had been laid. I was present, however, at the capture of a female Nukta on her nest, which yielded the extraordinary number of *forty* eggs! Of course it is just possible, though highly improbable, that this may have been the joint produce of two birds; but the emaciated condition of the one captured, coupled with the fact that one egg was an abnormally small one, and evidently her last effort, do not favour such a supposition.

The tree selected was an ancient banyan (*Ficus indica*) which overlooked a large sheet of water, several miles in circumference; the nest-hole was at an elevation of some 20 feet, 3 feet deep, and 2 in circumference.

The eggs (incubation was barely commenced) were laid several tiers deep, and those at the bottom were a little soiled from resting on the damp wood. It is highly probable that a large proportion of these eggs are never hatched, and that they all become discoloured as the process of incubation progresses.

The thirty-nine full-sized eggs average $2\frac{1}{2} \times 1\frac{3}{4}$ inches; they are long obtusely pointed ovals; and in feel, polish, and texture they resemble a white billiard ball.

The boss or fleshy protuberance of the drake gets greatly enlarged during the breeding-season, frequently measuring $2{\cdot}2 \times 2{\cdot}4$ inches at the *base*.

DENDROCYGNA ARCUATA.

Jerdon could never have found a full clutch of the eggs of the Whistling Teal, or he would not have limited the number to "six or eight" ('Birds of India,' vol. iii. p. 790). Ordinarily this Duck lays fully a dozen eggs; but I am indebted to my friend Mr. Fynes-Clinton for two clutches of twelve and fourteen respectively, which he took from the *same nest*; whether these were laid by one or two birds must of course remain an open question.

On the 29th June, 1872, Mr. Clinton flushed a bird from the top of a low date-palm (*Phœnix dactylifera*), and found the first-mentioned lot (twelve); on the 13th July he happened to visit the same locality, and to his surprise found the second clutch in *exactly the same* situation; the Duck was on her eggs. Now the dates are so coincident that, supposing these twenty-six eggs to be the produce of two birds, the second one must have laid her first egg the *very* day after the removal of the first batch.

As to situation, the choice may be mentioned in the following order:—first, depression at the fork of the lower branches of large-limbed trees; second, old nests, particularly those belonging to Crows, Herons, &c.; and, third, thorny scrub or grass on the edge of swamps.

The eggs measure 1·9 × 1·5 inch, and when fresh are of a milky white colour; the inside membrane is a delicate salmon-pink tint.

NETTAPUS COROMANDELIANUS.

This species nests in holes of trees and old ruins, and never, according to my experience, in old nests or on the ground.

I once had an opportunity of watching a pair in the act of selecting their habitation. They invariably flew into the tree together; and while the female used to enter the hole, to reconnoitre, as it were, the male sat on a bough watching for her exit. No sooner did she make her appearance than they both flew away together, giving utterance to a peculiar cackling sound, which has been pronounced to be like the words "fixed bayonets." Their visits used to be repeated at intervals of every fifteen or twenty minutes. The drake never went into the hole; and I am therefore inclined to believe that he does not lend his aid in the performance of the duties of incubation.

The greatest number of eggs laid by the Goslet, of which I have a record, is twelve. This nest was taken by Mr. Spry at Budaon in August last. The hole occupied was at no great height; but it was 3½ feet deep, and only large enough to admit of ingress and egress; the contents had to be removed by means of an iron spoon something like a soup-ladle with an extra-long handle.

The eggs are obtusely pointed ovals, and certainly large for the size of the bird; they measure 1·7 × 1·3 inch, and in shape and colour are exactly similar to those of the Whistling Teal.

XXVII.—*Fifth Appendix to a List of Birds observed in Malta and Gozo**. By CHARLES A. WRIGHT, C.M.Z.S.

269. SAXICOLA LEUCOPYGA, Brehm; vel *Saxicola leucocephala*, Brehm.

At length I am able to add an entirely new bird to the avifauna of Europe. I allude to *Saxicola leucopyga*, which, before the advent of the specimen now under notice, had not been observed on the European continent or any of its adjacent islands. It was shot on the 18th of April, 1872, by Signor Vitali, a public weigher of Her Majesty's Customs, on some rocky ground, called *Tal capucini*, on the south side of the Grand Harbour, in the Cotonnera district. It was set up by Signor Francesco Ellul, and came into my hands immediately afterwards. The head, nape, and rump are pure white; the tail white, slightly marked with brown towards the extremities of the feathers, except the two central feathers, which are dark brown. The rest of the plumage is silky black or very dark brown. There is no doubt now, I believe, of the identity of this bird with *Saxicola leucopyga*.

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* For Fourth Appendix see Ibis, 1870, p. 488, *et seq.*

I have specimens from Upper Egypt, both with and without the white head, and two very interesting examples—one having the head pure white, with one or two black feathers on the white ground, and the other having the head black intermixed with a few straggling white feathers—confirming the conclusion already arrived at, that *S. leucocephala* and *S. leucopyga* are one and the same species.

270. Saxicola melanoleuca (Güld.). Black-throated Chat.

A specimen of Wheatear sent by me, some time ago, to Mr. Dresser, has been determined by that author to be *Saxicola melanoleuca*, an eastern form of the Russet Chat, as mentioned in his 'History of the Birds of Europe.' Other specimens, shot by me, are in my collection. One, a fine adult male, an exact counterpart of the plate, was shot on the 9th April, when several others were seen. The description, made at the time, was:—length $5\frac{7}{8}$ inches (15 cm.); beak and legs black; first primary shorter than the third; base of middle tail-feathers white. I shot a female in the same field shortly afterwards. The dimensions are precisely the same as the male. The top of the head and back are brown, very slightly tinged with isabelline; wings darker; extremity of tail-feathers and two thirds of central ones blackish brown. The patch on the throat and sides of the head is of the same shape and extent as in the male, but rendered indistinct by the feathers being tipped with grey, giving it a sooty look; breast rufescent cream-colour, which extends, more or less mixed with white, to the under tail-coverts; upper tail-coverts and basal ends of tail-feathers pure white; faint indications of a light superciliary streak; beak and legs brown. Another female, shot on the 18th of the same month and year, had the head and back much more isabelline, reminding one of the Desert Chat (*S. isabellina*). A male obtained on the 24th April, 1868, appears to be still in immature plumage, having some resemblance to the female, but possessing the jet-black throat and auriculars, this colour reaching very low down the gular region and slightly above the eye. Another male, shot at the Salini on the 30th March, 1871, has the white parts beautifully tinged with rufous cream-colour. Two others, sex unfortunately not noted, one of which was taken in Sept. 1861, are in the brown plumage. One of these, probably a young male in autumn, has the black patch fully developed. My not having hitherto included *Saxicola melanoleuca* in the Malta list arose from considering it undistinguishable from *S. stapazina*, Linn., from which it appear schiefly to differ in the extent of black on the throat, and in having a more eastern range.

271. Calandrella minor (Dresser, Birds of Europe, pt. xxi. Sept. 1873). Lesser Short-toed Lark.

Calandritis minor, Cab. Mus. Hein. i. p. 123, "N.E. Africa."

This is another new bird for the European list; and for a knowledge of its occurrence we are indebted to the author of the 'Birds of Europe,' who certainly deserves all the credit of having detected it among some skins of *C. brachydactyla* (Ibis, 1864, p. 60) sent to him by me from Malta. The desert Larks approach so closely to one another that it is quite impossible without a good series to differentiate them. The specimen which entitles this bird to a place in the avifauna of Europe was obtained by me in Malta in November, 1862. Mr. Dresser, in the great work above quoted, says that this species closely resembles *Calandrella pispoletta*, Pallas's Short-toed Lark (which, in its turn, had also been confounded by authors with *C. brachydactyla*), but differs from it in being smaller and much more rufous and less grey in colour. This "elegant little bird, the smallest of the group," is found in Northern Africa, Palestine, Arabia, Egypt, and Nubia. Its habits are said to be similar to those of the Common Short-toed Lark (*Calandrella brachydactyla*).

272. Emberiza pusilla, Pallas. Little Bunting.

It is with much pleasure that I announce, for the first time, the presence of this pretty little bird in Malta. A specimen was brought to me alive by a bird-catcher on the 24th of October 1873, and continued to live till the 1st of November, when it was found dead in its cage. It was taken in a net a few days previously, and was so tame as readily to pick up seed and sip water in the presence of persons looking at it, but was easily startled and frightened if approached too suddenly. Its note was a single sharp *tseet,* uttered once, or repeated two or three times at short intervals. On dissection it proved to be a male, probably a young bird, and very thin, although its crop was nearly full of hemp-seed; but this kind of food probably did not agree with it. In plumage it resembles exactly the upper figure in Bree's 'Birds of Europe," who also gives a very accurate description. Like the plumage attributed to the female, it has no russet on the throat, and presents a cream-coloured streak extending backwards from the eye. Its bright russet cheeks and ear-coverts, together with an irregular black band running over each side of the head, above the eye, from the base of the beak to the nape, and its diminutive size will help to distinguish it at a glance. The beak is straight, or nearly so, very sharp, and pointed, and slightly reversed at the tip. Upper mandible small. Irides black, or extremely dark brown; legs and feet light yellowish brown. Carefully measured in the flesh, its length was slightly over 5 inches, from carpal to end of wing $2\frac{7}{8}$ inches.

273. CYPSELUS PALLIDUS, Shelley. Egyptian Swift.

Undoubted examples of this Swift have been taken in Malta in May of the present year. Capt. Feilden procured one in the market on the 18th; and I obtained another at Salini on the 27th. Both specimens were females and in good condition. In mine the ovary was beginning to enlarge. He observed a bird on the 13th, which must have belonged to this species, in company with common Swifts; and, on the wing, it reminded him of a large Sand-Martin. I am nearly certain that I have shot this light-coloured Swift before; and one occasion especially recurs to my memory. This was in August, when I killed several out of a large flock on Fort-Manoel Island. Unfortunately I did not preserve any, mistaking them for the young of *C. apus.* Little doubt now remains on my mind that *Cypselus pallidus* visits us, both in spring and autumn, and is probably a regular migrant to and from Southern Europe. Considering it is common in Egypt, and has been obtained in Tangiers by Major Irby (Ibis, 1870, p. 445, and Shelley's 'Birds of Egypt,' 1872, p. 172), it would be rather curious if we did not find it here; and a further search may possibly demonstrate the fact of its breeding in this island. I shot several examples of *Cypselus apus* for comparison; and the subject of the present notice may be easily distinguished from the common species by its light colour, smaller dimensions, and greater extent of white on the throat.

274. PHŒNICOPTERUS ERYTHRÆUS (Verreaux)?

Besides the well-known large kind of European Flamingo (Ibis, 1864, p. 149, 1870, p. 492), long since recorded as an accidental visitor, I have to include in the Malta list a small species or variety, probably the same as that found by Salvadori in the island of Sardinia*, and of which there are also one or two specimens in the museum at Palermo, taken, I believe, in Sicily. About this bird there appears to be some difference of opinion. Without a series of specimens for comparison, I will not increase the confusion by offering an opinion, further than observing that the great difference in size would, *primâ facie*, induce one to declare that they are perfectly distinct. However this may be, I may at once state that the small individual which forms the subject of the present notice was shot on the 27th or 28th of March, 1869, at Marsa Scala, on the east coast of the island, by Capt. Azzopardi, during a strong north-westerly gale, and that I am indebted for becoming possessed of it to the liberality of Mr. Jemison Smith, of this island. There were no others with it when killed.

The following comparative dimensions are from a specimen in my possession of *Phœnicopterus roseus*, shot by myself at Tunis, and the small example shot in Malta, as stated above:—

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* 'Catalogo degli Uccelli di Sardegna, con note e osservazioni di Tommaso Salvadori,' &c. &c., p. 102: Milano, 1864. Also 'Fauna D'Italia,' parte seconda. "Uccelli," by the same author, p. 250: Milano, 1872.

	Ph. roseus.		*Ph. erythræus.*	
	ft.	in.	ft.	in.
Total length	4	10¾	3	6
Legs	2	1	1	3
Tarsus	1	2½	0	9¼
Wing	1	5½	1	2
Beak, tip to margin of frontal feathers	0	6	0	4¾

The plumage of the smaller bird is more generally diffused with pink, and the red on the wing-coverts is more extended and brighter. The tail-feathers are white, with a slight tinge of pink. The form of the beak is precisely the same as in *Ph. roseus,* only proportionately smaller.

275. LARUS LEUCOPHÆUS (Lichst.).

This bird appears to be the common representative of *Larus argentatus* in the Mediterranean, from which it chiefly differs in its darker mantle and ochreous-coloured legs; in *L. argentatus* the legs are livid white. I had often remarked this difference; but it was not until my attention was drawn to the fact of the existence of *Larus leucophæus* in the Mediterranean by my friend Mr. Howard Saunders, who has devoted much attention to the Laridæ, that I became aware of it being the common so-called "Herring-Gull" of Malta. I have since shot several specimens, besides having seen numerous examples flying about the harbours, close enough to note the colour of the legs; and all have proved to be *Larus leucophæus.*

The presence here, therefore, of its near ally, *Larus argentatus,* requires confirmation; and my observations under this head (Ibis, 1864, p. 151) should be applied to *Larus leucophæus*; for it is very unlikely we should have *L. argentatus* here in the breeding-season, though it is not impossible both species may occur in the winter. Subjoined are the dimensions, taken in the flesh, of two birds shot at the mouth of the Grand Harbour on the 21st of February, 1871,—the first being an undoubted *L. leucophæus,* the second probably the same species in immature plumage. Both specimens were preserved.

Adult ♀. Length 1 ft. 11¼ in.; carpus to tip 1 ft. 5½ in.; tarsus 2½ in.; beak to angle of gape 3 in.; middle toe same length as tarsus; wings extend beyond the tail 2 in. Colour of mantle darker than in *L. argentatus*; margin of eyelids red; irides light amber. Legs and feet chrome-yellow; inside of mouth mixture of red and yellow.

Immature bird, ♀. Length 1 ft. 11½ in.; carpus to tip 1 ft. 5½ in.; beak to angle of gape 3 in.; tarsus upwards of 2½ in.; middle toe rather more than 2½ in.; wings extend beyond the tail 2 in. Back brown mixed with bluish grey; rest of plumage mottled with brown; broad band of brown at end of tail. Beak black, with white horny tip; legs livid white.

276. ANAS CLANGULA. Golden-eye.

In my collection there is a specimen, ♀, obtained in December 1870, which had escaped notice until Lord Lilford, going over a drawer of skins with me, drew my attention to it. This is the first record of its capture in Malta, although doubtless, it being common in Sicily, it occasionally visits us on migration.

277. ANAS ANGUSTIROSTRIS (Ménétr.). Marbled Duck.

A specimen of this rare European Duck was observed in the market by Capt. Feilden and myself on the 11th May this year (1874); and it is possible we are indebted for its visit to the very boisterous and unseasonable weather that has lately prevailed. From all accounts it appears that this southern species is a summer migrant from Africa to Europe; and as it has been met with in Sicily and Epirus, it is somewhat singular that it does not oftener put in an appearance at Malta. This specimen proved on dissection to be a female, with the ovary enlarging, stomach empty. It is now in the collection of Capt. Feilden.

We afterwards traced out the person who shot it—a country lad named Birtu Samut—and learnt from him the following particulars:—

It was first noticed on Saturday, 9th inst., at mid-day, at the Salini, and an ineffectual attempt made to shoot it. It returned in the evening, when Samut winged it; but it succeeded in escaping for a time by swimming out to sea, notwithstanding having also received a severe contusion in the head with a stone. On the following day, at about noon, he saw it swim ashore, in the same part of the Salini, so exhausted as to allow itself to be taken by the hand. The wind had been blowing strong from the westward. The species was quite new to the shooters at the Salini; nor had the market-man seen any of the kind before.

278. Alca torda.

I have lately had an opportunity of examining the specimen, taken many years ago, which gave rise to the admittance of the species *Uria troile* into the Malta list. It turns out to be a young Razor-bill, *Alca torda*, which name should be substituted for the erroneous one (Ibis, 1864, p. 152). I may add that *Alca torda* has been occasionally observed in Sardinia (*Salvadori**) and Sicily (*Doderlein*†).

The following are some additional notes regarding rare and occasional visitors:—

Aquila chrysaetus. On Sunday, 16th Nov. (1873), Dr. Gulia drove up to my house at Sliema to say that a very large Eagle had been shot two or three days ago, that he had closely examined it and determined it to be a Golden Eagle. He also told me that the person into whose hands it had fallen intended to have it preserved. I lost no time in making further inquiries, and on the following morning crossed over the two harbours to Cospicua, with the view of obtaining permission to examine the specimen, and, if possible, securing it. Judge of my disappointment and, I must add, disgust on ascertaining that the owner had, on the Saturday morning previous, consigned it to a passing scavenger; and all my efforts, which were not a few, to trace its remains were unavailing. From some hasty notes taken by Dr. Gulia when the bird was left with him for a short time, no doubt exists in my mind that he was right in his diagnosis; but it is a thousand pities that so grand a bird should have been thus miserably lost, the more so as the species has only once before been recorded as observed here (Ibis, 1869, p. 245), and no collection in the island, public or private, contains a specimen. It was shot on the rocks near the ruins of Crendi, on Thursday, the 13th inst. It was seen to approach from the direction of Filfla, at a great height, and, on gaining the land, descend at one flight to the ground. From the description given it appears to have been in the dark plumage of the immature bird, known in that state as the Ring-tailed Eagle, on account of the white marking on the tail-feathers.

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* *Op. cit.* ('Uccelli di Sardegna'), p. 134.

† 'Avifauna del Modenese e della Sicilia,' per Pietro Doderlein, &c. &c., p. 276: Palermo, 1873.

FALCO ELEONORÆ (Ibis, 1864, p. 48). The first specimen of this interesting bird that I ever handled in the flesh was taken alive in Malta on the 4th May, 1864, and is in my collection. It is an exceedingly fine example of the bird in the Hobby stage of plumage. I append a description, chiefly from notes taken at the time:—

Length (in the flesh) 15 inches; wings from carpal to tip $12\frac{1}{4}$; wings extending beyond the tail $1\frac{7}{12}$. Beak bluish. Cere, margins of eyelids, legs, and feet sulphureous yellow; claws black. Irides very dark.

The upper parts are of a schistaceous black, very slightly marked on the edges of some of the feathers with rufous; no rufous on the nape. Underparts rufous, indistinctly streaked with blackish brown tinged with sooty black; deeper rufous towards the vent- and thigh-feathers, which show very few streaks. Moustaches very apparent; sides of the neck and throat white or creamy white. *Inner webs of the primaries unicolorous,* i. e. without any spots, which peculiarity, together with its larger size, is given by Salvadori*, although hesitatingly, as the chief means of distinguishing it from the Hobby in this condition of plumage.

The bird-stuffer to whom I sent it to be set up assures me it was a male. Lord Lilford, who has given much attention to this species, thinks it is probably in the plumage of the third year.

I once observed what I am almost certain was a bird of this species, in summer, flying in the ditch of the fortifications of the land front of Valletta; and it is far from improbable that it occasionally breeds here. There is no doubt of the true Peregrine nesting on the precipitous cliffs of these islands. Schembri's statement of the Kite (*Milvus regalis*) nesting in Gozo is certainly erroneous, this species invariably selecting trees for nidification.

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* *Op. cit.* ('Uccelli di Sardegna'), p. 25.

PANDION HALIAETUS (Ibis, 1864, p. 45). There was an Osprey, ♂, in the market on the 1st Sept., 1871, which had been shot in Gozo. On the 23rd May, this year, I observed an Osprey at the Salini, close enough to see that it had a large fish in its talons. The men on the salt-works told me that it had been there since the morning, fishing in an arm of the sea that borders one side of the salt-pans, occasionally alighting to feast on its prey. It had, no doubt, been attracted by the mullet which abound there at this season. They said that it paid little attention to the labourers, and several times came so near that they could have easily shot it if they had had a gun. Up to the 27th it continued to be seen about the locality.

MILVUS NIGER (Ibis, 1864, p. 46; 1870, p. 489). I obtained another of these birds, ♀, in the market on the 10th Sept., 1872, and preserved the skin.

YUNX TORQUILLA (Ibis, 1864, p. 50). As mentioned, a rare winter visitant. Capt. Feilden obtained a specimen in the market on the 30th Dec., 1873.

CUCULUS GLANDARIUS (Ibis, 1864, p. 50). On looking over my birds the other day, I found I had one of these Cuckoos, which had been obtained in the market on the 18th April, 1867. It was a female. This makes the fourth that I have known to have been taken here in the course of a great many years.

PARUS MAJOR (Ibis, 1869, p. 245). A second example of this species was taken in Malta on the 8th Oct., 1871. A bird-catcher noticed it on a tree in his garden at the Pietà, and, laying a net for it, succeeded in effecting its capture.

It lived for several days. I was fortunate enough in securing the specimen.

Emberiza schœniclus, ♀ (Ibis, 1864, p. 55). One was taken in a net on the 9th Dec., 1871.

Emberiza nivalis (Ibis, 1864, p. 55; 1870, p. 490). Two other specimens of this northern bird have been taken within a few days of each other, since the one shot by me in November 1869. They were killed about the end of December of the same year, or beginning of January 1870. Both specimens were shown to me; and I secured one of them for my collection.

Hirundo daurica, Linn., (Ibis, 1864, p. 57). Another example of this rare visitor was taken in April 1870.

Hirundo rupestris (Ibis, 1864, pp. 57, 291; 1865, p. 464). I noticed several of these birds again at Rabuto, Gozo, on two successive days at Christmas, 1873. They seemed to be quite at home, hawking for insects on the sheltered sides of the houses in the most frequented part of the town, and from time to time resting on the cornices of the Calypso Hotel, where we were lodging, and other buildings. No other species of Swallow, as far as I know, passes the winter in these islands. On revisiting Gozo in the following April, I could find no traces of it, although the usual Swallows, Martins, and Swifts were to be seen everywhere on migration.

Caprimulgus europæus (Ibis, 1864, p. 58). I have a curious variety of this species, labelled "Female, Gargur, Malta, April 3, 1868." It is of a general silvery grey, wing-coverts almost pure white, the markings shown in the ordinary-coloured bird being faintly traceable on the light ground. It was given to me in the flesh by the person in charge of the government aqueducts. The latest date of the occurrence of *C. europæus* in Malta, during the spring migration, that has come to my notice, was on the 9th June, 1870, when I was surprised to find one of these birds and a Stilt Plover (Ibis, 1864, p. 49) on a stall in the market.

LANIUS MINOR (Ibis, 1864, p. 59; 1870, p. 492). I noticed one of these rare visitors in the market on the 5th Sept., 1871; and on the 8th I saw another on one of the stalls.

ALAUDA CALANDRA (Ibis, 1864, p. 61). On the 26th April, 1870, a sportsman shot one of these birds. I saw one on Fort-Manoel Island on the 8th May, 1874. This species of Lark appears to be getting rare here.

ANTHUS PRATENSIS (Ibis, 1864, p. 61). There is in my collection a specimen of this species of a general isabelline colour, with the wing-feathers almost pure white; the feathers of the tail are darker. Beak and legs very light yellowish brown.

ANTHUS SPINOLETTA. A piece of good luck befell Capt. Feilden in shooting one of these Pipits, on the first occasion when he and I paid a visit to Fort-Manoel Island, one fine sunny afternoon in November of 1873, the wind having blown for three days from the north-west. He very generously gave it to me; and it, being little injured by the shot, made a capital specimen. Length in the flesh 6 inches or 15 centimetres, quite ½ an inch longer than a specimen of *Anthus pratensis* killed shortly afterwards for comparison; tarsus $\frac{7}{8}$ in., *A. pratensis* being $\frac{6}{8}$. Colour of legs hair-brown (in *pratensis* they are light yellowish brown); irides brown. External tail-feather, distal half obliquely marked with white. In the specimen of *A. pratensis* now before me the end of second tail-feather, besides the first, is distinctly marked with white. General colour of the upper parts smoky olivaceous brown, the centre of each feather being darker. Greater and lesser wing-coverts margined with greyish white; superciliary streak, throat, and abdomen dirty white. Breast and sides thickly marked with dull indistinct spots, running into one another, especially about the sides of the neck. Very fat. Contents of stomach elytra of beetles.

TURDUS TORQUATUS (Ibis, 1864, p. 63). Several of the rarer species of Thrushes have made their appearance at Malta last winter (1873–74), possibly impelled by the severe weather. Capt. Feilden obtained a Ringed Ousel in the market on the

4th Nov., and another on the 8th of the same month. A few others were also taken.

TURDUS VISCIVORUS (Ibis, 1864, p. 63). In the last week of October 1873, one of these Thrushes was brought to the market, and Capt. Feilden obtained specimens at the game-stalls on the 18th and 27th Nov.

TURDUS PILARIS (Ibis, 1864, p. 64). This Thrush has visited us earlier and in greater numbers than usual this winter (1873). Capt. Feilden first observed it in the market on the 21st Nov. He afterwards saw it on the following dates:—25th Nov. (one specimen); 28th ditto (four specimens); 11th Dec. (one specimen); 20th Dec. (two specimens).

TURDUS ILIACUS (Ibis, 1864, p. 64). Two specimens were seen by the above-mentioned gentleman in the market on the 17th and 30th Dec., 1873.

ACCENTOR MODULARIS (Ibis, 1864, p. 67). Obtained a specimen in the market on the 8th Feb., 1870. Another example was shot on the 17th Dec., 1873, by Capt. Feilden when out shooting with me at the Inquisitor's Palace. A third was obtained by him in the market on the 28th Dec., 1873.

SYLVIA MELANOCEPHALA (Ibis, 1864, p. 69). From its well-known habits in other parts of the Mediterranean, there is no doubt this bird would regularly breed here if left undisturbed, as it is generally to be met with in pairs as the breeding-season approaches. Winter, however, is the season when it is oftenest seen. From the appearance of a female obtained this year as late as the 7th May, I have little doubt she had a nest. On the 9th Capt. Feilden shot a fine male, and we saw or heard two or three others. I noticed it this year as late as the middle of May. I only once heard it sing while hovering in the air like *S. conspicillata*. Its song is rather singular, flute-like, and melodious, but not very prolonged. This was in April. Its call and alarm notes are familiar to most people who have gardens and take notice of their feathered visitors.

Aëdon galactodes, *Aëdon rubiginosa* (Ibis, 1864, p. 72). A Rufous Warbler (the intermediate appellation of "Sedge" having been very properly suppressed since its habits have become better known) was taken alive on the 23rd May, 1873. It soon became accustomed to its prison-house and familiar with those who gave it food. It is a very lively bird, constantly on the move, frequently raising and dropping its tail, which it spreads out like a lady's fan.

Hypolais icterina (Vieill.), *Motacilla hypolais* (Linn.), (Ibis, 1864, p. 71). This bird, about which there has been so much confusion amongst authors, is, as I have stated in the first part of this list, not uncommon in the vernal and autumnal migrations; but good specimens are rather difficult to get.

The following is a description, confirming my previous observations, of a specimen, ♀, obtained on the 9th May this year (1874), amongst some carob trees, on an eminence overlooking the upper end of the valley of St. Julian's:—

Length 5½ inches (140 millimetres); wing 3¼ in. (80 mm.); tarsus ⅞ in. (22 mm.); beak ½ in. (13 mm.).

First, or bastard wing-feather very short, scarcely reaching beyond the extremity of the upper primary coverts; second primary (reckoning the bastard feather as the first) longer than the fifth, and about equal to the fourth; third longest in the wing, which in repose extends to fully half the length of the tail. Upper parts green tinged with ash; wings and tail brown edged with grey, the tertiaries being most broadly marked; superciliary streak, throat, cheeks, and underparts light yellow; tail somewhat rounded when spread, but emarginated when closed. Upper mandible brown; lower mandible tinged with orange. Interior of mouth orange. Tarsus, toes, and claws slaty brown. Irides hazel. Ovary beginning to develop. Condition of bird rather fat.

In the third edition of Yarrell, *H. polyglotta* is given as having been captured in England; but from Prof. Newton's edition of the same work, now in course of publication, it would appear that the bird alluded to was really *Hypolais icterina* of Vieillot.

ACROCEPHALUS TURDOÏDES (*Calamoherpe turdoïdes*, Ibis, 1864, p. 72). Two of these birds were taken alive, Oct. 1873, and became very tame in confinement, eating readily from the hand, and going in and out of their cage, in the open air, without any fear. Mr. F. Mamo, of this island, who is very successful in his treatment of soft-billed birds as cage-favourites, kept them for some time. None of the pictures I have seen gives a correct idea of this bird's appearance in life. Its most natural position is crouching, the neck very thick and short, with its large head slightly raised and drawn in close to the shoulders, which are round and broad.

MEROPS PERSICUS (Ibis, 1864, p. 73). One of these rare and adventitious wanderers to Europe was shot in Malta since the publication of my "Fourth Appendix." It was killed at the end of May 1871, at the Inquisitor's Palace, by F. Camilleri, barber of the Central Hospital, out of a flock; but whether of the same or of the common kind (*M. apiaster*) he could not say. He was first attracted by its note, which was different from any he had heard before. The specimen is in my collection. It is a male in spring plumage. It is the only Malta-killed specimen extant, as all trace is lost of the only other example I know of, said by Schembri to have been killed in Sept. 1840.

ALCEDO ISPIDA (Ibis, 1864, p. 73). This bird was unusually abundant in the autumn of 1873. Its Maltese name, *Ghasfur la San Martin*, is derived from the time of year it generally makes its appearance, namely, the Feast of St. Martin. One bird-stuffer preserved about twenty specimens. I noticed it on the 30th Oct. and 3rd Nov., 1873, and 7th Jan., 1874—on the second of these occasions in the Dockyard Creek, right in amongst the boats and shipping.

TRINGA MINUTA (Ibis, 1864, p. 492). I shot several examples on the 27th May, this year; but although they had almost assumed complete summer plumage, dissection did not show any signs of approach to the breeding-state. The stomach of one of them contained small marine shells of the species *Truncatella truncatula*.

Tringa temminckii (Ibis, 1864, p. 148; 1869, p. 492). This bird is doubtless a regular migrant; and scarcely a spring passes without my observing it. It also occurs in autumn. The last time I shot one was on the 5th May, this year, at Salini, out of a small flock, which had become extremely wild on account of being frequently fired at and molested.

Strepsilas interpres (Ibis, 1864, p. 148; 1865, p. 466). One of these birds, which cannot be considered more than an occasional visitor, was shot in Gozo on the 15th May, this year, and kindly sent to me by Mr. Arrowsmith. It had almost attained the full summer plumage, and was of the female sex.

Phœnicopterus roseus? (Ibis, 1864, p. 148; 1870, p. 492). A Flamingo was seen and shot at on the 22nd August, 1870, at the Salini; and footmarks, probably of the same bird, were afterwards observed in the mud in the outer ditch of the Marsa. A Flamingo was seen flying over the suburb of Floriana one day in April this year, 1874.

Larus tridactylus (Ibis, 1864, p. 151). My friend Mr. Medlycott shot one of these birds in the Marsamuscetto Harbour on the 22nd Feb., 1873; and I examined the specimen before he sent it to be skinned. It is one of our rarest Gulls, but, I dare say, gets often overlooked in a flock of the Adriatic Gull, one of which he killed with the other barrel.

Larus canus (Ibis, 1864, p. 151). I have a specimen of this Gull, which was taken on the 18th Dec., 1865.

Sterna hybrida (Ibis, 1864, p. 153). I shot a beautiful specimen of this Tern at the Salini on the 22nd May, of the present year. It was a male, and assuming the breeding-state. The breast and belly were prettily mottled with white, the lead-colour becoming nearly black towards the vent. Legs orange-red; beak brownish red.

Sterna fissipes (Ibis, 1864, p. 153). In July 1870 a large number of Black Terns visited our harbours, and remained here till about the end of September. I first noticed them on the 29th July, while paying a visit to the ironclad squadron, which was anchored off the mouth of the Grand Harbour. I shot one on the 4th August in Sliema Creek. It was standing on a fishing-cork, and had been seen in this position for several hours, regardless of the ferry-boats which repeatedly passed close to it in the course of the day. As they chiefly confined themselves to the other harbours, on the 6th I organized a regular campaign against them, and found them in abundance fishing in the New-Harbour extension, which was at that time pretty free from shipping. I saw none in the black plumage of summer; all were more or less marked with grey and white. I shot six, the average measurement being from 9½ to 10 inches in length—the larger specimens being males, as is always the case with the different species of the Tern family; length of wing 8½ inches. It was exceedingly interesting to watch their light and rapid movements; now dropping suddenly from their airy altitude, splashing the water like a falling stone, in pursuit of some small fish or offal that had attracted their attention, now coursing through the air, in imitation, as it were, of the Swallow tribe. In many parts of the new harbour were placed floating corks to mark certain spots where mines had been laid to blast the rock at the bottom, in order to deepen the anchorage. On most of these corks was to be seen a solitary Tern, quietly watching for some passing fish, to seize it for its prey. They showed no fear of approaching boats. I amused myself for some time with one little fellow, by pulling my skiff to windward and allowing it to drift down towards him. He never moved until I had almost touched him with my hand, and then only to mount a few feet in the air over my head, and alight on the same cork the instant that I had passed. This experiment I repeated several times, with the same result. Occasionally, while within a few inches of him, he would exchange calls with a passing companion. The note was rather a shrill scream. So close did he allow of my approach that I could watch the expression of his little dark bright eye; but there was nothing of alarm in it. May be, one reason for his loathness to abandon this particular cork was the presence of a small fish, which he had captured and laid at his feet, and his not wishing to renounce so good a chance of a meal. Taking up the fish to examine, and carefully replacing it, I had no sooner done so, than my little friend immediately resumed his stand on the cork. So much fearlessness and confidence were enough to touch even a collector's heart, and nothing could have induced me to repay them by injury. Indeed I shot no more specimens that day. The best way to distinguish the Black Tern from the White-winged Black Tern (*Sterna leucoptera*), in all states of plumage, is by comparing the length of the tarsi, there being a considerable and constant difference, that of the Black Tern being shorter.

PUFFINUS CINEREUS and PUFFINUS ANGLORUM (Ibis, 1864, p. 153). Although examples of these birds may be seen nearly throughout the year, it is in March that they approach the shores of these islands for the purpose of breeding, old and young taking their departure in October.

PELECANUS ONOCROTALUS (Ibis, 1864, p. 154; 1865, p. 466). There was a Pelecan in immature plumage exhibited for sale in the market on the 27th, 1872, which I ascertained had been shot in Gozo.

FULIGULA CRISTATA (Ibis, 1864, p. 156). One of these rare Ducks, a fine male, was noticed in the market on the 19th Nov., 1873, by Capt. Feilden. The winter of 1873–74 has been remarkable for the large number of Woodcock, Duck, and Teal that have been taken here during the time of migration.

N.B. *Stercorarius catarrhactes* and *Cygnus ferus* require further confirmation before being accepted as accidental visitors. The statement of the appearance of *S. catarrhactes* (Ibis, 1864, p. 151) was based on a very dilapidated specimen; and I have reason to fear that I was mistaken in referring it to that species. The head, wing-bones, and feet are still in my possession; so that it may yet be determined by comparison with other specimens. It was shot as long ago as

1849, on the day of the "Feast of the Conception," at the Salini, by Mr. Ardouino, who still remembers the occurrence*. The specimen of *Cygnus* alluded to (Ibis, 1864, p. 155) was doubtless the young of *C. olor*, a species already registered as visiting Malta (Ibis, 1869, p. 248). It is more than probable that *C. ferus* has also occurred here; but I have no authentic information of the fact. There is an example of *C. olor* in the Malta University Museum nearly pure white, but with scarcely any appearance of the frontal knob. I think the occurrence of *Alauda cristata* (Ibis, 1864, p. 60; 1865, p. 464), even as an accidental visitor, is very doubtful, also *Podiceps cornutus* (Ibis, 1864, p. 157), as I have never myself seen a specimen of either. Whilst on the subject of corrections, I may state that the alleged specimens of the American Gull (*Larus atricilla*) taken in Sicily, and preserved in the Palermo University Museum (Ibis, 1869, p. 255), do not belong to that species. During a recent visit to Palermo I had an opportunity, through the kindness of the learned professor in charge of the zoological department, of examining them. They are unmistakably examples of the Adriatic (or, as it is better called, the Mediterranean) Black-headed Gull. It may be taken for granted that the American species does not occur in the Mediterranean; and the allusions of authors to it, Yarrell among others, doubtless refer to *Larus melanocephalus*.

XXVIII.—*On rare or little-known* Limicolæ.

By J. E. Harting, F.L.S., F.Z.S.

(Plate IX.)

The Genus RECURVIROSTRA.

So long ago as 1863, in Wiegmann's 'Archiv' for that year, p. 131, Messrs. Philippi and Landbeck described an Avocet from the Andes, which they named *Recurvirostra andina*, and which was said to differ materially from the only species of the genus then known to inhabit the New World. Their description and measurements, to which I shall presently refer, left little to be desired save the acquisition of further specimens and the information which other observers might supply as to the geographical range and habits of the bird. Strange to say, although ten years have elapsed since it was brought to the notice of ornithologists, no further observations, so far as I am aware, have been published in regard to this interesting species.

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* [Since this paper was sent to the printers Mr. Wright has sent us the fragments mentioned above. On comparing them with specimens in Mr. Dresser's collection, we are able to state that they belong, without doubt, to a young individual of *S. pomatorhinus*.—Ed.]

An opportunity has just been afforded me, through the kindness of Mr. Sclater, of examining a carefully finished coloured drawing by Herr Landbeck of the identical specimen from which the original description was taken. In compliance with his request that I would examine and report upon the validity of the species in question, I beg to offer the following remarks :—

On looking at the plate, which is here faithfully reproduced (Plate IX.), the first thing which attracts attention is the white head; a second peculiarity is the absence of any white bar upon the wing, so conspicuous in the well-known species *R. avocetta* and *R. americana*; and one cannot fail to notice also that the tail-feathers, instead of being pure white, like those of its congeners, are of the same colour as the back and wings.

It is thus particularly described by its discoverers :—

"Head and neck white; mantle, wings, and tail black; feet bluish grey.

"Length from bill to end of tail 1 foot 6 inches 9 lines; bill 3·2 inches; tail 4; wing from carpus 9·6; bare tibia 1·3; tarsus 3·4; middle toe 1·7; outer toe 1·5; inner toe 1·2; hind toe ·3.

"The wings do not quite reach to the end of the tail. The tibia is bare for 1·3 inch. The bill is horn-black at the extremity, graduating into horn-brown. Iris bright red. Tarsus bluish grey; claws black. Head, neck, breast, belly, under wing- and under tail-coverts, lower part of back and rump, flanks, and thighs pure snowy white. Upper part of back,

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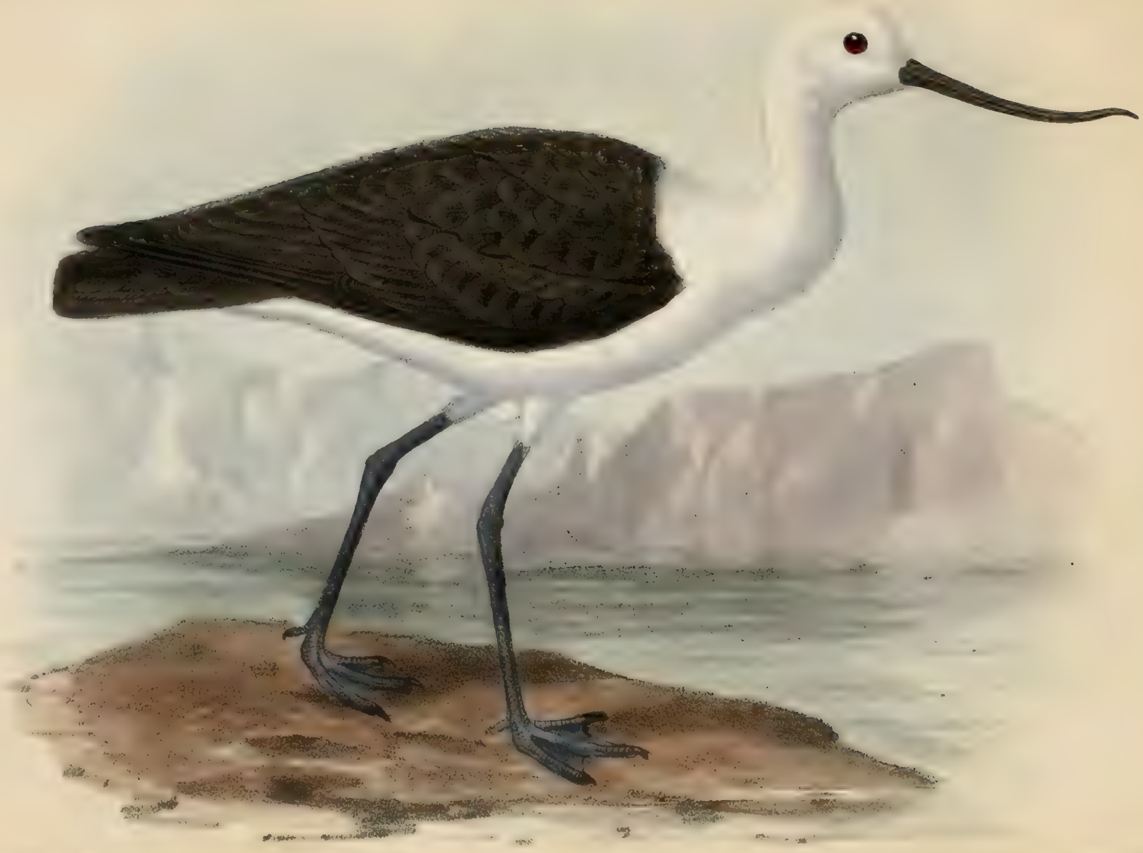

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M&N Hanhart imp.

RECURVIROSTRA ANDINA

AMERICAN MUSEUM
CENTRAL PARK,
NEW YORK.
NATURAL HISTORY.

shoulders, wings, tail, and upper tail-coverts brownish black; the greater wing-coverts and primaries with greenish black reflections, but without any white."

On reading this description, it seemed just possible that the bird in question might be immature; and as I remembered to have noticed in other species, and in some species of the allied genus *Himantopus*, that the tail-feathers are, for the most part, grey in the young, but become pure white in the adult, a careful comparison was necessary before any satisfactory conclusion could be arrived at.

The result of this comparison has satisfied me that the bird described by Herren Philippi and Landbeck must be regarded as a valid and highly interesting species.

The genus *Recurvirostra* is a very restricted one; and it is not difficult, therefore, to point out the distinguishing characters of the four species of which it is composed, and show in what respects *R. andina* differs from its congeners.

Recurvirostra avocetta, which is the most widely distributed of all (being found, as I shall presently show, throughout the greater part of Europe, Asia, and Africa), is at once to be distinguished by its black crown and nape, present at all seasons, in young as well as in old birds, although of a paler or browner hue in the case of the former. This peculiarity is shared by no other species of Avocet. In the distribution of colour about the back and wings it resembles the New-World species, *R. americana*; that is to say, the scapulars, wing-coverts, and primaries are black, while the interscapulars and secondaries are pure white. The closed wing has thus the appearance of being crossed by two very conspicuous white bars. This distribution of colour is indicated at a very early age, even in the young bird incapable of flight, the parts which in the adult are black being in the young of a mealy brown hue. The tail and tail-coverts are at all seasons white.

From this species *R. andina* differs in having a white head, an absence of white upon the wing, and the tail and tail-coverts brownish black.

In *R. americana* the crown and nape are never at any season black, being in summer ferruginous or sandy red (which colour extends to the whole of the neck and the upper part of the breast), in autumn grey, more especially in birds of the year, and in winter pure white. In the winter plumage therefore it resembles *R. andina* in the colour of the head, but differs from it in the colour of the wings, which resemble those of *R. avocetta*, save that the white secondaries are so nearly obscured by the dark wing-coverts that the closed wing presents the appearance of being crossed by only one white bar (and that a narrow one) instead of two. The bill is much less recurved and less attenuated at the extremity than in any of the other species. The tarsus is longer than in *R. avocetta* and *R. andina*; but the latter has a longer wing.

R. novæ-hollandiæ, inhabiting Australia and New Zealand, may at once be distinguished by the rich chestnut colouring of the whole of the head and upper portion of the neck, which is retained, apparently, throughout the year, though of a paler hue in winter. The coloration of the wings is much the same as in the last-named species, save that there is much less black upon the scapulars, and these black feathers do not meet to form one broad mesial patch in the centre of the back as in *R. avocetta* and *R. americana*.

The legs and feet in all the species are of a delicate bluish grey, the soles of the feet tinged with buff. By some authors they have been described as black; but this was in consequence of the descriptions having been taken from dried skins. The bill is of the colour and appearance of whalebone; the irides bright red or reddish hazel.

In structure *Recurvirostra* closely resembles *Numenius* and *Totanus*. The tongue is very short in proportion to the length of the bill, slightly emarginate at the base, with a few conical papillæ, slender, tapering to a point, and flattened above. On the palate are two longitudinal series of blunt papillæ. The posterior aperture of the nares is linear, nearly an inch in length, papillate on the edges. The œsophagus is between seven and eight inches in length, and inclines to the right side. In diameter it is about half an inch at the upper part, dilating to about three quarters of an inch at its entrance into the thorax. The trachea is about six inches and a half long, and a quarter of an inch in diameter, its rings very thin and unossified, and the bronchi short. The proventriculus is an inch long, and half an inch in diameter; the gizzard of an oblong shape, about an inch and a half long and nearly an inch wide, the epithelial lining tolerably thick and hard. The intestine is between three and four feet long, and about the third of an inch in diameter; the rectum two inches long, and the cæca about two and a half and two and three-quarter inches respectively.

The gizzard has generally been found to contain small shells and particles of grit, remains of small crustacea, worms, beetles, and sometimes vegetable fibre.

Various details have been published from time to time of what may be termed the better-known species of Avocets; but these details are scattered throughout a multitude of different volumes, and reference to them involves no little time and trouble.

The species, however, are so few in number that the present seems a fitting opportunity for bringing together some of the more important observations which have been published concerning them.

Linnæus thus describes the genus:—

"Recurvirostra. Rostrum depresso-planum, subulatum, recurvatum, acuminatum, apice flexili. Pedes palmati, tridactyli."

He was mistaken, however, in writing "tridactyli," as in all the known species there is a hind toe present.

Recurvirostra avocetta, Linnæus.

Recurvirostra avocetta, Linn. Syst. Nat. i. p. 256 (1766), et auct. recent.

Recurvirostra europæa, Dumont, Dict. des. Sc. Nat. iii. p. 339 (1816).

Recurvirostra tephroleuca, Vieillot, Enc. Méth. p. 360 (1823).

Recurvirostra halebi, Brehm, Vogelf. p. 325.

Recurvirostra sinensis, Swinhoe, Ibis, 1867, p. 400.

Hab. Europe from 60° N. lat. to the Mediterranean; Asia from Siberia to Cochin China and Ceylon; Africa to the Cape.

Diagn. R. alba; pileo, collo postico, scapularibus ex parte, tectricibus alarum, et remigibus primariis nigris; rostro nigro; iride rufescenti-fusca; pedibus cæruleis; long. tot. circa 17·5 poll., rostr. 3·2–3·5, alæ 8·5–9·0, tib. nud. 1·5–1·75, tars. 3–3·4, dig. med. cum ung. 1·5–1·75.

From what has been said above, it will be seen that this species has a very extensive geographical range, more so, in fact, than any other of the genus. In Europe it is pretty generally distributed but is not found very far north, perhaps not further than the 60th parallel of N. latitude, although breeding in Denmark, the Isle of Sylt, Schleswig Holstein, and the north of Germany and Holland. It was formerly a regular summer visitant to England; but the general cultivation of waste lands, and the drainage of extensive pieces of water (the natural consequence of an increasing population and an improved system of agriculture), have gradually banished it from its former haunts. The neighbourhood of Rye, in Sussex, Romney Marsh, in Kent, Salthouse, in Norfolk, and Fossdyke Wash and West Fen, in Lincolnshire, are upon record as former breeding-places; and to these might be added Winterton and Horsey in Norfolk, the neighbourhood of the Seven-Mile House, on the river Bure, near Yarmouth, and the Mere-lands at Thorpe, near Aldeburgh. In Scotland and Ireland the Avocet is regarded as an extremely rare bird. It has occurred accidentally as far north as Orkney, and as far to the south and west as Cork Harbour; but these must be considered quite exceptional instances. On the opposite shores of Holland, where I have had opportunities of seeing this singular bird alive and watching its graceful movements, large tracts of unreclaimed marsh and ooze still afford it a secure retreat, whilst the veto which is placed upon shooting during the nesting-season in that country enables it to rear its young in many places with more or less freedom from molestation.

In some of the marshy plains of Southern Spain the Avocet is equally at home during the breeding-time; but Mr. Howard Saunders, who has obtained the eggs there, states (Ibis, 1871, p. 387) that it does not appear to be numerous, since only a few pairs came under his own observation.

Dr. Cullen, referring to the present species, says the Avocet is rather a common bird in the Dobrudscha during the breeding-season. There it never nests in marshes, nor in weeds or grass, but always on the sand, mud, or shingle left dry, or nearly so, by the partial drying up or receding of the salt lakes or ponds. There are several of these in the neighbourhood of Kustendji, upon the shores of which the Avocet breeds.

The nest is usually a mere hollow lined with stems, straws and pieces of caked mud, but is frequently without any lining at all. Dr. Cullen once found some nests made completely of straws and stems built up to the height of six or eight inches. When undisturbed the bird invariably lays four eggs. These are of a warm stone-colour, handsomely blotched or streaked with black. Notwithstanding that the nest is generally in an exposed situation, it is not very easy to find; for the bird never flies directly to or from it. It always runs crouchingly along the ground, with head bent low, for some little way before it takes flight, and in returning it invariably alights first at some distance, and approaches the nest in the same cautious way that it left it. It is a shy and restless bird, and betrays great uneasiness if its nest is approached or its young molested, often trying to entice the intruder away by feigning lameness or a broken wing. The young, which run as soon as they are hatched, are at first covered with white down, but marked on the head and shoulders like the old birds. Dr. Cullen says the bill is then quite straight; but if so, it must very speedily acquire the characteristic curve; for Mr. Gould, in his 'Birds of Great Britain' has figured the young three weeks old with unmistakably upturned bills; and I have before me a young bird from Southern Spain, apparently about the same age, in which the bill is also very decidedly curved.

If the bill, however, were not straight at first, it would follow that the young must either feed immediately they are hatched, after the manner of their parents, or that the latter must have some peculiar mode of supplying them with food. Insectivorous birds, as we know, feed their young by thrusting their own bills into the open mouths of the nestlings, while with Cormorants, as I have often observed, just the reverse takes place, the bill, and even the entire head of the youngster, sometimes disappearing in the capacious maw of the attentive parent. But in the case of the Avocets, neither of these modes can be adopted, owing to the peculiar curvature of the bill, unless, indeed, that of the nestling is straight; and it seems equally clear that the extremities of the mandibles are practically useless, since they are often so weak and attenuated that they do not even close one upon the other. I suspect it will be found that Avocets feed their nestlings as Puffins do; that is to say, they bring small fish, thin-skinned crustacea, and worms *crosswise* in their bills, and laying the latter close alongside the open mandibles of the young, allow them to snatch the food *sideways* from them.

The mode of feeding as observed in the case of adult birds is as remarkable as it is different from that of the majority of the Scolopacidæ. Instead of boring into the soil, like the true Snipes, or feeding from the surface with the extremity of the bill, like the Sandpipers, the Avocet, resorting to the soft ooze, upon which it is well supported by its webbed feet, places the flattened convex mandible upon the surface of the mud, and by an alternating lateral motion of the head, scoops its food sideways into the mouth. Some interesting remarks on this subject, from the pen of Mr. A. E. Knox, will be found in the 'Zoologist,' vol i. p. 225.

Its webbed feet enable the bird to swim well, not only when wounded, and attempting to escape, but apparently for diversion; for a little flock of Avocets have been seen to alight upon a salt-water pool, where the water was known to be several feet deep; and Mr. Swinhoe, when at Amoy, once saw "a small group of pied birds floating in a clump" on the Chang-chow river, which subsequently proved to be Avocets*. On the wing they are equally at home, flying well and rapidly, with outstretched neck, while uttering a loud and tremulous note.

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* Ibis, 1867, p. 400.

I have already referred to the wide geographical range of the present species ; and but for the above digression upon its habits, into which I was led from a consideration of Dr. Cullen's remarks upon its mode of nidification in the Dobrudscha, I should have proceeded to trace its distribution beyond the European continent. There can be no doubt, from the seasons at which it has been noted by many observers on both shores of the Mediterranean, that it passes southwards and eastwards in the autumn, returning in an opposite direction in the spring. Thus, according to Mr. C. A. Wright (Ibis, 1864, p. 149), it has been met with in Malta and Gozo in spring and autumn. Lord Lilford met with it in Epirus in December. Mr. O. Salvin saw it at Zana and Djendeli in June; but "at Chot Saboun, the eastern extremity of the marsh of Zana, the bird was most numerous." Canon Tristram found it at Tuggurt, south of the Atlas, in January. Drs. Finsch and Hartlaub, Mr. E. C. Taylor, Capt. Shelley (who saw it in February and March), and others bear testimony to its spending the winter in Egypt and Nubia* ; while Dr. Kirk and Dr. Hartlaub respectively affirm that it regularly visits the Zambesi region and Madagascar. Travelling down the west coast, in the same way, by Senegambia and Damaraland, where Andersson frequently shot specimens, it finds its way into Cape Colony, as we know from the observations of Dr. Andrew Smith, and the more recent investigations of Mr. E. L. Layard.

Andersson's note on this species, as furnished by Mr. J. H. Gurney in the 'Birds of Damara Land,' runs as follows :— "This handsome and peculiar bird is occasionally found on the south-west coast of Africa, and also occurs, though less frequently, inland. In the Cape Colony, however, I have found the case, as regards its distribution, slightly reversed. I may mention as inland localities for this species Objimbinque, where I have seen it once or twice, and Ondonga, where it was shot by Axel. At certain seasons the Avocet is not uncommon on the coast at Walvisch Bay, Sandwich

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* Dr. Brehm believes that the N.E. African form may be distinguished as *Recurvirostra halebi* : but in this opinion I cannot concur.

Harbour, Angra, Pequeña, &c.; but it usually disappears from Damara Land during the breeding-season, though I have little doubt that a few pairs remain to nest there, as I have occasionally met with very young birds during the dry time of the year." Mr. E. L. Layard, writing in 1867, included this Avocet in his 'Birds of South Africa' as occurring periodically in the colony in small flocks, and mentioned Zeekoe Bay, on the Simon's Town and Wynberg road, Nel's Poort and Beaufort as localities where numerous specimens had been procured, among them several in very young plumage; but at that date he had not heard of their breeding there. That they do so, however, there is now no doubt; for he has since obtained the eggs there, and one of these, with which he kindly presented me, is now in my collection*.

Were I to attempt to indicate in detail all the localities in which the Avocet has been met with in Asia, I might say as much for that vast continent as has been said for Africa; but I should perhaps only weary my readers, and occupy too much valuable space. Suffice it to say that, according to Pallas, Radde, and other well-known authorities, the so-called European Avocet is met with in Siberia, Tartary, and Mongolia. Mr. Blanford shot a specimen in June at the Lake of Shiraz, but considers it rather a rare bird in Persia. Major St. John also procured specimens at the Lake of Shiraz and at the Lake of Dastarjin. Canon Tristram found it in Palestine; and the late Mr. J. K. Lord noticed it in Arabia.

In India there seems to be some difference of opinion as to its distribution in that country. Jerdon and Blyth both considered that it is not a common bird there, although the former naturalist has remarked ('Birds of India,' iii. p. 706) that it is "met with occasionally *throughout the whole country,* frequenting the edges of tanks and rivers, generally in small flocks." To this statement, however, exception is taken by Col. Tickell, who says that, as far as his experience goes, the Avocet is "an exceedingly rare bird in India." He adds, "though I have pretty generally explored the Ganges between Sootee and Patna, the Gunduck and Bishennuddee in Tirhoot, the Bhagiruttee in Bengal, and the Mahanuddee in Malda, the Koel, Damoodur, Kasaie, and Soobunrekha, in the wilder tracts of Chota, Nagpoor, and Orissa, never have I met with this bird except in the tideway of the Hooghly below Calcutta, or in the mouths of the Roopnarain, near the sea, and never in any inland jheel, lake, or marsh." This last remark reads strangely; for Mr. Hume, writing on the ornithology of Sindh ('Stray Feathers,' i. p. 248), states that it is there very common about the larger inland lakes; and at the Muncher Lake especially, he noticed it in large parties, "certainly a hundred in a single flock." Mr. R. M. Adam, too, shot several specimens in March and April at the Sambhur Lake, in Central India ('Stray Feathers,' i. p. 397). Hodgson found it in Nepâl. Père David, Mr. Swinhoe, Mr. Reeves, and others have observed the Avocet in China and Formosa; and Mr. Swinhoe regards it as a winter visitant to South China (P. Z. S. 1863, p. 311). It is included in Mr. Holdsworth's "Catalogue of the Birds of Ceylon" (P. Z. S. 1872, p. 475) on the authority of Mr. Layard, who, some years since, noted the occurrence of two specimens at Jaffna (Ann. & Mag. Nat. Hist. 2nd ser. vol. xiv. p. 265, 1854).

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* This is not the only instance of a species breeding in what is generally termed its "winter-quarters." Some interesting notes on this subject, in which other species are named, by Mr. Layard, Dr. Bree, and the late Mr. Blyth, will be found in the 'Field' for 1871. See also Burgess, P. Z. S. 1855, p. 23; P. Z. S. 1863, p. 288; Sharpe and Dresser, P. Z. S. 1870. p. 244; and Saunders, Ibis, 1871, p. 389.

As regards *Recurvirostra leucocephala* of Vieillot (Nouv. Dict. d'Hist. Nat. iii. p. 103, and Gal. Ois. iii. p. 181, pl. 272), I have seen the type specimen in the Paris Museum, and can state that it is not an Avocet at all, but a young bird, with a broken bill, of the Australian Banded Stilt, *Cladorhynchus pectoralis* (Du Bus). It is easy to see how the mistake arose. Had the bill been perfect, Vieillot would have seen that it was not recurved; but having only the basal half before him, and, no doubt, observing the extreme *vertical* compression of the mandibles, erroneously assigned it a place among the true Avocets. The foot of *Cladorhynchus* is very small compared with that of *Recurvirostra*; and although palmated as in that genus, like *Himantopus* it has no hind toe.

The identification of *Recurvirostra orientalis*, Cuvier, is a point which, I imagine, Indian ornithologists especially will be glad to have settled. Cuvier's very brief reference to the species which he thus named, Règ. An. i. p. 533 and note (1829), is as follows*:—After referring to *R. avocetta* and *R. americana*, he says, "Il y en a sur les côtes de la mer des Indes une troisième, toute blanche, à ailes toutes noires, à pieds rouges, *R. orientalis*, nobis;" adding in a foot-note, "M. Vieillot a changé ce nom en *Recurv. leucocephala*, Gal. pl. 272." Now *R. leucocephala*, Vieillot, as I have already pointed out, is the Australian *Cladorhynchus pectoralis* (Du Bus); and there can be no doubt, from Cuvier's description and note, that his species was founded on the very same type in the Paris Museum from which Vieillot had described. This is confirmed by Guérin's plate in the 'Iconographie du Règne Animal,' tom. i. pl. 56, fig. 10 (1829–1844), where, allowing for the broken bill, incorrectly restored, the identity of *R. orientalis* with the Australian *Cladorhynchus* is placed beyond all doubt. I need scarcely add that Cuvier was mistaken in supposing that the bird in question came "from the shores of the Indian Ocean." It is confined entirely to Australia; and ornithologists may rest pretty well assured that there is but one species of Avocet in India, viz. *R. avocetta*†.

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* [The bird is described and named in the edition of 1817.—Ed.]

† [The above identification of Mr. Harting's has already been anticipated by M. de Selys-Longchamps, whose views are given in his excellent 'Note sur la Famille des Recurvirostridées,' published in the Bulletin of the Académie Royale de Belgique, xvii. part i. p. 5 (1851).

The proper name of the Australian bird will therefore be

CLADORHYNCHUS LEUCOCEPHALUS (Vieillot).
Recurvirostra leucocephala, Vieill. N. D. iii. p. 103 (1816).
Recurvirostra orientalis, Cuv. R. A. i. p. 496 (1817).
Leptorhynchus pectoralis, Du Bus, Bull. Ac. Roy. Belg. ii. p. 419, t. 7 (1835); Mag. Zool. 1835, t. 45.
Cladorhynchus pectoralis, Gould, Birds Austr. vi. t. 26.
Himantopus palmatus, Gould, Handb. Birds Austr. ii. p. 248.
Cladorhynchus palmatus, G. R. Gray, List Gen. B. p. 69 (1840).—Ed.]

Mr. Swinhoe's *Recurvirostra sinensis* from Amoy, I think, must be referred to the present species. His description (*l. c.*) does not, indeed, apply to an adult specimen of *R. avocetta*, but, to my mind, clearly indicates the bird of the year, which differs chiefly from the adult in having the upper part of the back and tail light ashy grey, and the scapulars and wing-coverts edged with the same colour, or with white. He gives careful measurements of bill, wing, tarsus, &c., and some useful remarks on the trachea, gizzard, and intestines as noted by him on the dissection of specimens of both sexes.

RECURVIROSTRA AMERICANA, Gmelin.

Recurvirostra americana, Gmel. Syst. Nat. i. p. 693 (1788); Wilson, Am. Orn. vii. p. 126, pl. 63 (1813); Swainson, Faun. Bor.-Amer. ii. p. 375 (1831); Audubon, Orn. Biog. iv. p. 168 (1838); *id.* Birds Amer. vi. p. 24, pl. 353 (1843); Baird, Birds N. Amer. p. 703 (1858); Coues, Key N. Amer. Birds, p. 247 (1872).

Recurvirostra occidentalis, Vigors, Zool. Journ. iv. p. 356 (1829); *id.* Zool. Voy. 'Blossom,' p. 28, pl. xii. (1839); Cassin, Illustr. B. Californ. & Tex. p. 232, pl. xl. (1856); *id.* U. S. Expl. Exped. p. 324 (1858) *id.* Perry's Exped. Japan. ii. p. 246 (1856).

Hab. Temperate parts of North America, California, Mexico, Central America.

Diagn. R. alba; capite colloque ferrugineis colore antice ad pectus producto (ptil. æstiv.), aut albidis, nonnunquam cinerascentibus (ptil. hiem. & juv.), scapularibus nigris; tectricibus alarum et remigibus primariis nigris cineraceo limbatis; rostro nigro; iride rufescenti-fusca; pedibus cæruleis. Long. tot. circa 18 poll., rostr. 3·75, alæ 8·75–9·0, tib. nud. 1·9, tars. 3·75, dig. med. 1·75.

The present species appears to be pretty generally distributed throughout the temperate parts of North America, but is more abundant on the western coast. In the vicinity of Hudson's Bay, in the summer season, it was observed to be plentiful; and Nuttall found it breeding on the islands of shallow ponds throughout the Rocky Mountains. It is common on the Saskachewan plains, where, according to Richardson and

Swainson, it frequents the shallow lakes, feeding on insects and small freshwater crustacea. In Oregon, California, and Texas it is equally numerous, as was ascertained by the U. S. Exploring Expedition under Peale and others. I have received several specimens of this bird from Mexico in full summer plumage; and Professor Spencer Baird has recorded its occurrence in Florida. Occasionally, says Mr. Cassin (*l. c.*), it is noticed on the coast of the Atlantic, sparingly north of New Jersey, but becoming more numerous southwardly. Audubon, in his 'Birds of America' (*l. c.*), has given an extremely interesting account, too long to be quoted here, of the breeding-habits of this bird as observed by himself between Henderson and Vincennes, in the State of Indiana; and this account is republished in his 'Ornithological Biography' (*l. c.*). Although *R. americana* has been met with in some parts of Central America, *e. g.* in Guatemala, where, if I mistake not, Mr. Salvin procured specimens*; it would appear to be somewhat rare there, and probably does not travel much further south. I know of no instance of its occurrence in any part of South America, although the Black-winged Stilt, *Himantopus nigricollis,* a bird of similar habits and affecting similar haunts, is found quite as far north and travels down to Brazil. The latter bird has been met with in Jamaica (Gosse) and the Galapagos Islands (Habel); but the former seems to be confined entirely to the continent of North America.

Giraud, in his account of the birds of Long Island, p. 269, says, "the habits of this bird are very similar to those of the Stilt, to which in form it has some resemblance. It is less frequent with us than the latter, and is not generally known to our gunners. It frequents the shallow pools in the salt marshes, and, like the Stilt, is sometimes seen wading breast-deep in pursuit of its favourite fare. A few breed at Egg Harbour, where they are called "Blue-stocking," their legs being of that colour. Its nest is built among the thick tufts of grass, usually near some favourite pool, making use of similar materials in its construction as the Stilt. The number of eggs is also the same (four), which differ only in having the ground-colour dull olive, those of the Stilt being of a yellowish-clay colour blotched with black." The food of the American Avocet consists chiefly of insects and small crustacea. The stomachs of several specimens examined by Swainson contained fragments of the latter mixed with gravel. Like the various species of *Totanus,* it is a very noisy bird; and, uttering cries of distress, it flies towards any one who may invade its haunts. The females have the colour of the head and neck in summer much paler than the males, and approaching to a buff orange, while the scapulars are browner. In winter the head and neck in both sexes are white; in the adult, in autumn, and in birds of the year, the same parts are grey or greyish white. There can, I think, be little doubt that *R. occidentalis,* Vigors, was founded upon examples of the present species, procured at San Francisco, in the latter plumage. Prof. Spencer Baird and Dr. Elliott Coues are certainly of this opinion*, although their views were not shared by the late Mr. Cassin. Vigors's original description in the 'Zoological Journal' runs as follows:—"*Recurv.* dorso, corpore infra, remigumque secundariarum apicibus albis; capite, collo supra, caudaque pallidissimè griseis; remigibus nigris. Rostrum pedesque nigri. Longitudo corporis 18, rostri 4, alæ a carpo ad remigem primam 7½, caudæ 3½, tarsi 4."

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* [*Cf.* Salvin, Ibis, 1865, p. 192, et 1867, p. 198, where it is stated that this species was seen in some numbers at Chiapam on the Pacific coast of Guatemala.—Ed.]

In the 'Zoology of the Voyage of the 'Blossom,'' published ten years later, the same naturalist again described the bird, adding the remark that it differs from our European species . . . . in the absence of the black markings on the head and nape; and from the Indian species, *R. orientalis,* by the greyish colouring of the head and upper part of the neck, as well as by the fascia on the wings, and the black colour of its legs"†.

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* See also Peale, Expl. Exped. *l. c.*

† The colour of the legs, erroneously stated to be black, must have been so described from dry skins. The delicate pale bluish grey of those parts fades very rapidly after death. In two specimens of *R. avocetta* which I skinned on the 13th April last, this beautiful colour had changed to black before the end of the month.

Between the date of Mr. Vigors's description above quoted (1829) and the publication of Mr. Cassin's excellent 'Illustrations of the Birds of California, &c.' in 1856, in which the bird in question is figured (pl. 40), no observations seem to have been recorded to impugn the validity of the so-called species, Mr. Cassin remarking that, since the date first mentioned, it had been "again noticed *only* by Col. McCall and Dr. Heermann, both of whom, however, represent it as being by no means a rare bird." Dr. Heermann found it in various parts of California, and procured numerous specimens, which are now in the National Museum, Washington, and in the Museum of the Philadelphia Academy. He observed it resorting to shallow pools, in which it waded breast deep, usually finding on the soft muddy bottom a plentiful feast of insects and snails." "Although partially web-footed," he adds, "it does not swim, so far as I have noticed, unless wounded, when it takes immediately to the deep water, swimming with great celerity, soon getting beyond range if not at once disabled by a second shot." "I have noticed this bird in abundance," he continues, "on the borders of the reedy swamps which cover a large portion of the lower part of the Sacramento valley."

The observations of Col. McCall upon this species, as published by Mr. Cassin in the work to which I have referred, are particularly interesting; and, indeed, without reference to them the present notice would scarcely be complete. He says:—"At the village of San Elizario, 22 miles south of El Paso, on the 16th October, 1851, I found small flocks of the Western Avocet feeding along the banks of the Rio Grande, and frequenting the sloughs and pools in its vicinity, whilst moving to the south in the course of their regular autumnal migration. They were tame and unsuspicious, and evidently ignorant of the destructive character of the gun; for its report seemed to create little alarm, even when the discharge carried death into their ranks. To illustrate this I need only mention the fact that the first flock which came immediately under my observation alighted within twenty yards of the piazza where I was sitting, on the morning after my arrival. They waded at once into the shoal water of a 'cut-off' from the river, which passed immediately in front of the house, and began to feed. I was near enough to see them immerse their bills into the water, and search the soft mud below for their prey; and as they, from time to time, were scattered, and again assembled in a group, I had ample time and an excellent opportunity to note their manner of feeding. I was soon satisfied that their habits in this respect did not differ from those of *R. americana,* which I had previously seen in great numbers, and closely observed on the borders of the Ozo river, in southern Texas. After watching them for some time, I took my gun, and at a single discharge secured five of the dozen that composed the flock. The remainder flew the distance of a stone's throw, and, alighting in shoal water, began to feed again without appearing to notice the loss of their companions. I followed them, and in a few minutes procured three more within one hundred yards of the house. During that day, and several successive days that I remained at the post, I saw flocks of from six to ten on their feeding-grounds, both morning and afternoon. I shot them, as well as Ducks and Snipe, daily; and at no time that I recollect had I any difficulty in approaching within easy gun-shot.

"A few days previously I had seen a very large flock of these birds near Val Verde, some 170 miles further up the river. This flock contained fifty or sixty birds; they rose near me as I fired at a flock of Teal, and circled round in very compact order, presenting the beautiful contrast of their white and black markings, and at length settled on the opposite side of the pond, where they were beyond pursuit. The occasions here mentioned are the only ones on which I have met with *R. occidentalis.*

"On the wing the flocks were usually closely compacted; the flight was buoyant, and with little exertion of muscular force."

RECURVIROSTRIS ANDINA, Philippi & Landbeck.

Recurvirostra andina, Philippi & Landbeck, Wiegm. Arch. 1863, p. 131.

Hab. Paruncota, in the Andes.

Diagn. R. alba; capite, collo, pectore, abdomine, subalaribus et crisso, dorso et uropygio pure albis; scapularibus, interscapuliis, alis et cauda fuscescenti-nigris; rostro nigro; iride coccinea; pedibus cæruleis: long. tot. circa 18·9 poll., rostr. 3·2, alæ 9·6, tib. nud. 1·3, tars. 3·4, dig. med. 1·7.

The above diagnosis I have prepared from the description given by Herren Philippi & Landbeck. Translated from the German, the brief account which they give of the bird is as follows:—

"Head and neck white; mantle, wings, and tail black; feet bluish grey.

"The wings do not quite reach to the end of the tail. The tibia is bare for 1·3 inch. The bill is horn-black at the extremity, graduating into horn-brown. Iris bright red. Tarsus bluish grey; claws black. Head, neck, breast, belly under wing- and under tail-coverts, lower part of back and rump, flanks and thighs, pure snowy white. Upper part of back, shoulders, wings, tail, and upper tail-coverts brownish black; the greater wing-coverts and primaries with greenish black reflections, *but without any white.*"

They add, "this pretty Avocet, which cannot be mistaken for any other species, was obtained by the late Herr Frobeen, of Arica, at a lake at Paruncota, in the Andes, 16,000 feet above the sea-level, and only one specimen procured in June 1863. The birds were very shy, and the air so cold and thin, that collecting there was attended with great difficulty."

As I have already stated at the commencement of the present article the reasons which have led me to regard *R. andina* as a good species, I need only remark, in addition, how extremely desirable it is that the attention of ornithologists in South America should be directed towards its rediscovery, with a view to ascertain its geographical range and something more than its original discoverer has been able to supply from the acquisition of a single specimen.

RECURVIROSTRA NOVÆ-HOLLANDIÆ, Vieillot.

Recurvirostra novæ-hollandiæ, Vieillot, N. D. d'hist. nat. iii. p. 103 (1816); Buller, Birds N. Zealand, p. 201 (1872).

Recurvirostra rubricollis, Temm. Man. d'Orn. ii. p. 592 (1820); Lesson, Traité d'Orn. p. 592 (1831); Gould, Synops. B. Austr. pt. ii. (1837); B. Austr. fol. vi. pl. 27; Handb. B. Austr. ii. p. 249 (1865); Schlegel, Mus. Pays Bas (Scolopac.), p. 104 (1864); Gray, Ibis, 1862, p. 237; Hand-list, iii. p. 47 (1871); Downing, Proc. Roy. Soc. Tasmania, vol. iii. pt. 2; Ibis, 1861, p. 119.

Avocetta novæ-zealandiæ, Ellman. Zoologist, 1861, p. 7470.

Hab. Australia, Queensland, New South Wales; Tasmania (*Rev. T. J. Ewing*); Norfolk Island (*Downing*); New Zealand (*Buller, Ellman*).

Diagn. R. alba: capite et colli dimidio superiore castaneis, hoc colore antice ad pectus producto; scapularibus ex parte, tectricibus alarum et remigibus primariis nigris; rostro nigro; iride rufescenti-fusca; pedibus cæruleis: long. tot. circa 18·5 poll.; rostr. 3·5; alæ 8·6–9·2; tib. nud. 1·75; tars. 3·2; dig. med. 1·5–1·8.

The Red-necked Avocet, which is perhaps the most beautiful of the four known species, chiefly inhabits Australia, and is there confined, for the most part, to the western and southern portions of that country, although I have received specimens and seen others from Queensland. Mr. Gould did not meet with it himself during his rambles in New South Wales, but has now and then seen it in collections from those parts; and there is a specimen thence in the Leiden Museum.

Like other species of the genus, "it frequents," says Mr. Gould, "the shallow parts of lakes, inlets of the sea, and the muddy banks of the rivers, often wading knee-deep in the water, and readily swimming when necessity requires it so to do. Its food consists of minute marine mollusca and insects, which it gathers from the surface of the mud with its delicately organized bill, the structure of which is admirably adapted for the purpose. In Western Australia the favourite localities of this bird are the lakes in the neighbourhood of Perth and on Rottnest Island, where it is seen in small flocks in company with *Himantopus leucocephalus.* In South Australia the river Murray and the shores of Lake Alexandrina afford situations equally adapted for its existence."

"The sexes," he continues, "are alike in plumage, and differ but little in size;" and to this I may add that, so far as I have been able to judge from numerous specimens received at different times from various parts of Australia, the red or, rather, chestnut colour of the head and neck is retained throughout the year, though it becomes paler in the winter.

We are at present without information as to its breeding-habits; but its mode of nesting and the number and colour of its eggs are no doubt very similar to those of its better-known congeners.

The Rev. Mr. Ewing, in his "List of the Birds of Tasmania," published in the 'Proceedings' of the Royal Society, Tasmania, includes the Red-necked Avocet amongst the wading birds found there; and Dr. Downing, in an article "On Norfolk Island," published in the same 'Proceedings,' refers to a single specimen of this bird which had been procured at that lonely spot a year or two previously*.

Regarding its occurrence in New Zealand, Mr. Buller writes as follows:—"In the summer of 1859–60, I saw a small flock of them far up the course of the Ashburton River, and again in a small lagoon near the township of Timara, but not having a gun with me I was unable to secure any. In the same season a specimen was shot by Mr. French on the tidal flats near the mouth of the Kaiapoi river, and this, unfortunately, was allowed to perish. Three years later I met with a flock, numbering five or six, on the south-west of the Wellington province. They were very shy, rising high in the air on my attempting to approach them, and taking their course for the opposite side of Cook's Strait. Two specimens have been shot on the ocean-beach near Dunedin; and Dr. Richardson received another from the Whakatipu Lake, in the interior of the Otago province. A solitary one was shot on the mud-flats near Whangarei some years ago, and the skin was preserved by Mr. George Burnett, who forwarded it to Europe." The specimen from which Mr. Buller's description was taken was killed on the mud-flats near Christchurch, Canterbury settlement, in 1864, and forwarded to him by Dr. Haast for determination. Since that date a zealous investigation of the avifauna by observers in New Zealand has resulted in the acquisition of further specimens of this very handsome bird.

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* See also Ibis, 1861, p. 119.

XXIX.—*Remarks on some Typical Specimens of the* Trochilidæ, *with a Description of one new Genus.* By D. G. Elliot, F.L.S., F.Z.S., &c.

Having lately received from the Vienna Museum, through the kindness of Herr von Pelzeln, several of his types of various species of the Trochilidæ for examination, I thought it would interest those ornithologists who pay especial attention to those beautiful birds, if I should place on record the results of my investigation, both as regards the specific value of these specimens, and their proper place in the family.

The first I shall refer to has been described by Herr von Pelzeln in his 'Ornith. Brasil.' p. 57, as *Thalurania iolæma.* In our article on this genus, published in 'The Ibis' for 1873, p. 361, Mr. Salvin and I placed this bird among those species which we had not seen, and of whose specific value we could therefore give no opinion. Having now received the type, I find it has nothing whatever to do with *Thalurania,* but more properly should be placed in a new genus, having its nearest ally in *Smaragdochrysis.* I therefore propose for this bird the generic term of

PTOCHOPTERA.

Bill moderately long, straight, sharply pointed. Wings extremely short, a little over one third the entire length of the bird. Tail long, deeply forked, feathers narrow, outer ones curving slightly inwards.

The extremely short and feeble wing, in comparison with the size of the bird, is remarkable. The species may be briefly described as follows:—

PTOCHOPTERA IOLÆMA.

Top of head and nape dull dark green, entire upper parts grass-green, only slightly metallic. The tail-coverts are lighter green than the back, and reach to the fork of the tail. The entire throat is a pale metallic grass-green. Rest of underparts pale smoky brown, with some of the flank-feathers tipped with grass-green. Under tail-coverts long, same colour as the abdomen (smoky brown), with a slight metallic greenish lustre in the centre of the feathers. Tail long, deeply forked, dark purplish brown, feathers very narrow. Wings brown, with a purple tinge, only reaching down to a little over one third the length of tail. Bill and feet black.

Entire length 4⅜ inches, wing 1⅝, tail 2, bill along gape ¾.

This genus should be placed close to the *Smaragdochrysis iridescens*, Gould, and with it represents a group having their nearest affinities to the members of the genus *Selasphorus*.

The next typical specimen is *Phaethornis abnormis*, also described by Herr von Pelzeln, Orn. Bras. pp. 27, 56. In our article on the genus *Phaethornis*, Ibis, 1873, p. 13, this was referred to *P. bourcieri* by Mr. Salvin, he having seen the type in Vienna. Herr Pelzeln, thinking that, not having the specimen before us when our article was written, there might possibly have been an error in our conclusions regarding its specific value, kindly sent the type to me. I find that Mr. Salvin's recollection of the specimen was perfectly correct; for the bird agrees precisely with my specimens of *P. bourcieri*; and our determination that *P. abnormis* must only rank as a synonym, was an entirely just conclusion.

CEPHALEPIS BESKII.

This specimen might easily be taken for a variety of *C. delalandii*, to which it bears a certain resemblance. It differs from the common species in having the crest a bluish metallic green, instead of bright green, in the back and tail being brown only slightly tinged with green, and having the breast light blue (in some, light dull brownish black). I have had for a long time in my collection a specimen that I have always considered to be a variety of *C. delalandii*, which resembles the type of *C. beskii* in every particular save two. The crest, instead of being a metallic green, is a shiny black, with a kind of greenish gloss, and the breast is slightly darker and the blue more widely dispersed. Otherwise the specimens are precisely alike. I have still another specimen, which differs again from all the others. In its back and tail it is like *C. delalandii*; the crest, however, is a dark silvery grey, inclining to green on the long feathers of the occiput. The underparts are a bright metallic rich greenish blue, very different from any thing I have ever seen among specimens of the genus *Cephalepis*. It is extremely difficult to determine whether these represent several distinct species of *Cephalepis*, or whether my specimens, as well as the type of *C. beskii*, are merely different forms of variation occurring accidentally in the plumage of individuals belonging to the *C. delalandii*. I have never seen any varieties among specimens of *C. loddigesi*; but as this is still a very rare species, it may be that our examples have been too few to enable us to learn if individuals of that species vary or not to any considerable extent. In order to determine the value of these forms it will be necessary to await the arrival of more specimens.

ARGYTRIA MELIPHILA.

This is a *Chlorostilbon*, of the style called *C. daphne* by Bourcier, differing from its allies, such as *C. atala* and *C. brevicaudata*, chiefly by having a deeper wash of blue upon the throat. It may be a matter of considerable doubt whether this should be considered sufficient to warrant this form taking a separate specific rank; and besides this difference I find no other by which Von Pelzeln's bird may be distinguished. So long as *C. daphne* remains as a species, the *Argytria meliphila* must be placed as a synonym of it; but it is most probable that a large series of specimens would show a gradation between several of these little green Humming-birds, and necessitate their being all classed as one species. Von Pelzeln's specimen was procured at Barcellos by Natterer.

ARGYTRIA MEDIA.

This is also a *Chlorostilbon*, and is a very young bird, with but a few of the metallic feathers of the adult showing upon the throat. From the fact that it is in such immature plumage, it is as impossible to state to what species it belongs, with any certainty, as to accept it as representing some heretofore unknown or undescribed form. The specimen was procured also by Natterer, at Matagrosso.

I desire to take this opportunity of thanking Herr von Pelzeln for his kindness in loaning me these types, and enabling me to make comparisons, and thus to obtain more correct ideas of these specimens than is possible from any description.

THALURANIA LERCHI.

Besides the types above described, I have lately succeeded in adding to my collection the unique type of *Thalurania lerchi,* Muls. & Verr. Ann. Linn. Soc. Lyons (1868). This was also placed, in the review of this genus (Ibis, 1873, p. 360), among the undetermined species; and I now find that it is in no way allied to *Thalurania,* but constitutes a very distinct species of the genus *Eucephala,* differing from all others in having the upper part of the head a beautiful blue, and must be hereafter known as *Eucephala lerchi.* It is stated to have been obtained in Columbia.

XXX.—*Notice of an apparently undescribed Species of* Corvus *from Tangier.* By Lieut.-Col. HOWARD IRBY.

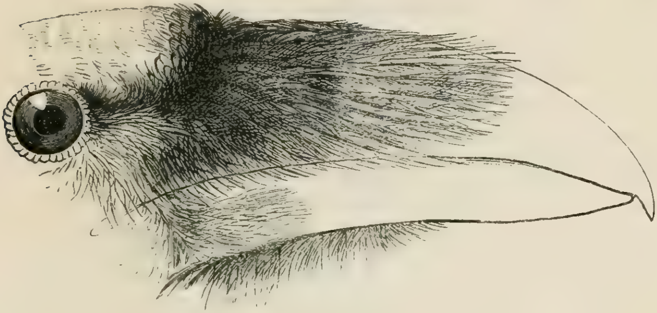
CORVUS TINGITANUS, n. sp.

C. C. affini, Rüpp., similis, sed rostro crassiore et setis rictalibus antrorsum directis nec posticè recurvatis, necnon colore alarum extus plus minusve ferrugineo distinguendus: long. tota 18·5, alæ 14·5, caudæ 8, tarsi 2·5, rostri a rictu 2·5.

Hab. prope urbem Tingem in imperio Mauritanico.

During a recent visit to Tangier, it appeared to me that the small Raven there, hitherto considered to be the European species, *Corvus corax,* was quite distinct from that bird, the note or, rather, croak being quite different. This difference, difficult to describe, is easily noticed when heard, the note not being so hoarse; further, its gregarious habits, as many as a hundred sometimes being seen on the wing at once, are quite opposed to those of our Common Raven*.

Upon shooting one, it was obviously not that species, which, by the way, is, as far as I have been able to observe, the only Raven inhabiting the European side of the Straits of Gibraltar, including "the rock" itself. As above, this bird, which I propose to call *tingitanus*, closely resembles *C. affinis*, except that the bristles which cover the nostrils are placed horizontally in *C. tingitanus*, and are upright or vertical in *C. affinis*. Mr. Sharpe kindly compared the five skins of the latter bird which are in the British Museum with those of *C. tingitanus*; and we found the same difference in all the specimens of *C. affinis* from various localities, all obtained by separate collectors. This difference is also shown in Rüppell's plate of the head of *C. affinis* (vol. i. pl. 10. fig. 2).



In colour these birds from Tangier vary much in the amount of the rusty brown, which, in the adult bird, covers the whole of the upper surface of the wings, particularly the secondaries; sometimes the tail is also tinged with brown. In all of them there is a trace of brown on the wings.

This Raven is excessively abundant around Tangier and in the low flat country which I have visited in Morocco, but does not appear so much to frequent high mountainous districts.

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* [But see Ibis, 1859, p. 312. The Algerian Raven here referred to may be the same as the Tangier bird.—Ed.]

Outside Tangier flocks of them may be seen feeding on the refuse which is carried from the town and thrown down on the sea-shore. Exceedingly tame to the natives, being viewed with superstitious awe by the Moors, they are wide awake to the European, especially if he carries a gun; and I found great difficulty in shooting them, except at the nest, which, constructed of sticks, neatly lined with grass and small roots, is built in clefts of rocks, on trees and low bushes. One nest which I saw was fixed in the crook or angle formed by a dead flowering stalk of the aloe, which had fallen across another stalk in full flower. The eggs, usually laid about the 20th of April, vary in number from five to seven, and, like those of others of the Crow tribe, differ much in the markings.

The following are the measurements of five specimens of *C. tingitanus*, shot near Tangier, compared with one specimen of *C. corax*, shot near Tarifa, on the Spanish side of the Straits:—

	1, ♂.	2, ♂.	3, ♂.	4, ♀.	5, ♀.	*C. corax* ♂.
Total length	18	18½	19½	18½	20	24½
Wing	14½	16½	13¾	14	15	19⅞
Tail	7¼	8	8	7¾	9	10
Beak	2⅝	2⅝	2½	2½	2½	3
Tarsus	2¾	2¾	2½	2¾	2¼	2¾

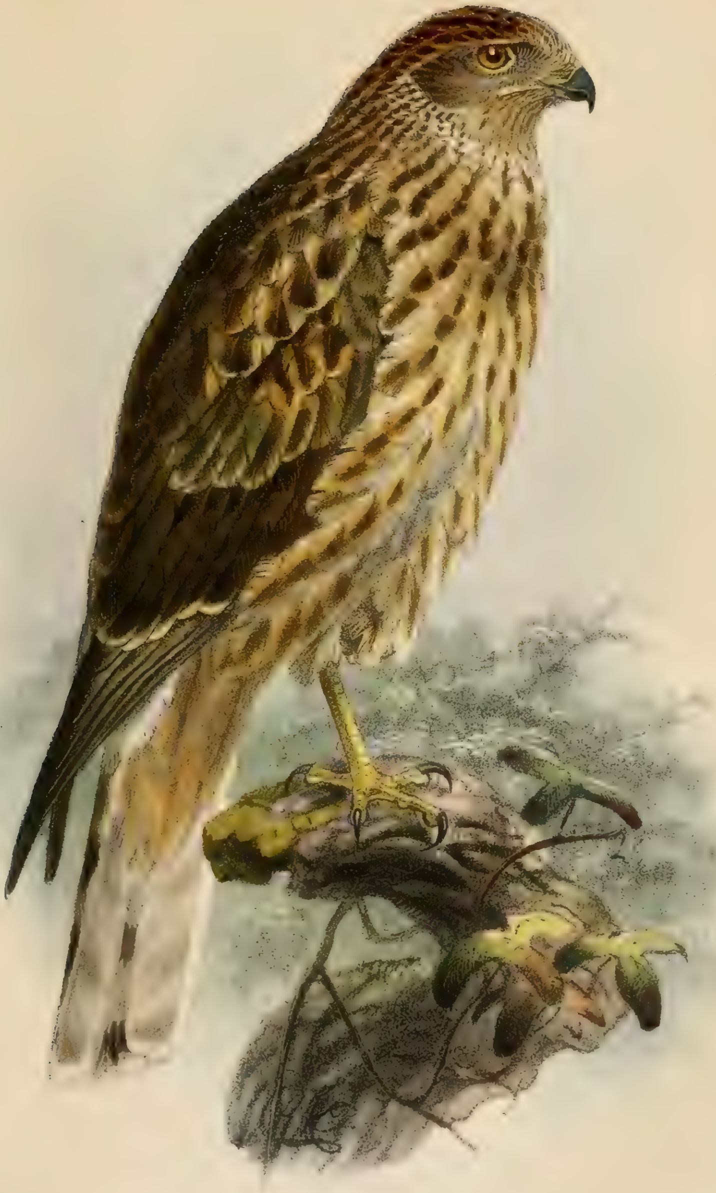
XXXI.—*Notes on Chinese Ornithology.* By R. Swinhoe.

(Plate X.)

In the last number of 'The Ibis' for 1873 was published a letter from myself at Shanghai, in which I stated that I had procured in the market a *Circus cineraceus* in immature plumage. On my return to England I reexamined this Hawk, and made it out to be, with Mr. R. B. Sharpe's assistance, the immature of

CIRCUS MELANOLEUCUS (Gm.),

and wrote to the Editor of 'The Ibis,' correcting my mistake (Ibis, 1873, p. 364). Mr. Gurney agrees in my present identification; and with the Editor's kind permission,



J.G. Keulemans lith.

M.&N. Hanhart imp.

CIRCUS MELANOLEUCUS ♀

AMERICAN MUSEUM
CENTRAL PARK,
NEW YORK.
OF NATURAL HISTORY.

Mr. Keuleman's excellent handiwork gives life to the description of the specimen I now transcribe from my notes. Total length 17 inches; wing 13; second quill 2·6 longer than the first and ·9 shorter than the third, which is ·2 shorter than the fourth or longest in the wing. First to fifth quills notched on the edge of the inner web; the third to fifth on outer web. Tail 8·5, of nearly equal feathers; under tail-coverts 3 inches short of tail-tip. Tarse 2·7 long, including the upper feathered portion, which extends ·9 from joint downwards; middle toe 1·2, its claw ·4.

Upper parts light brown, the feathers on the back dark-stemmed. Crown, nape, and scapulars blackish brown in centre of feathers, with broad yellowish red magins. Under-parts light buff, with yellowish brown streaks, broad and darker on breast; tibials and vent chestnut-buff, with darker stems to feathers. Quills brown, tipped light, with lightish stems, and barred across inner webs more obscurely towards their tips; axillaries reddish cream, with reddish brown spots; under wing whitish cream, with conspicuous bars. Upper tail-coverts greyish white; tail whitish brown, with three broad bars; a fourth, indistinct bar crosses near base of tail. Tail viewed from below, outer rectrix brownish white faintly barred with brown; the rest of a similar ground-colour, but with broad blackish brown bars.

Cere, base of bill, rictus, and skin round eye greenish yellow. Bill bluish black. Iris ochreous yellow. Tarsi and toes yellow, claws fine bluish black.

Mr. Fleming was the first that got this species in China. He procured the adult at Tientsin (P. Z. S. 1862, p. 315). I did not meet the species till October 1873; when on the lakes near Ningpo one morning in that month, I observed one in immature plumage sitting on a ridge of mud. I did not succeed in securing it.

The Shanghai specimen above described is the only other that I can speak of with certainty.

The plains of China, with their flat wet fields under paddy cultivation in summer, do not seem to find favour with these roving birds of prey; and I have not heard of a single species of this group passing that season in China, whereas in winter, when the rice gives place to the corn and vegetables, and much of the damp ground lies fallow in the shape of marshes, with the wild fowl return the Harriers, and while on sport with the former many a species may be noted during the day. I have never seen the eggs or young of any species brought about for sale; and I am pretty sure that most of the species wander elsewhere to breed. During the winter I have noted the following species beyond the one referred to above:—

2. CIRCUS SPILONOTUS, Kaup.

Abundant in winter over the marshes at the mouths of the rivers near Amoy, also in similar places in Formosa. Procured on the Yangtsze.

3. CIRCUS CYANEUS, L.

At Amoy and on the Yangtsze in winter.

4. CIRCUS SWAINSONI, Smith. *C. pallidus*, Sykes.

Captain Blakiston procured this species on the Yangtsze; its head and foot were identified by Mr. J. H. Gurney. It must have been this species that I saw by the Yangtsze and mistook for *C. cineraceus*, Montagu.

5. CIRCUS ÆRUGINOSUS, L.

I have seen and procured specimens of this species at Swatow, Amoy, Formosa, and Hainan in the brown dress, sometime with whitish head, but never with the mature greyish-blue wings.

New Horned Owl from China.

I would like to take this opportunity to introduce a Horned Owl that has hitherto been confounded with the *Lempijius glabripes*, mihi. In my "Notes on the Ornithology of Hongkong, Canton, and Macao," I give a *Scops* (No. 10), which I then mistook for the Foochow species (since christened *glabripes*). A footnote by the Editor (Ibis, 1861, p. 29) adds, "probably *Scops lempiji* (Horsf.), but rather dark in plumage." *L. glabripes* was very common at Ningpo; and I had in 1872 many opportunities of studying the species. I found its iris to be always black. This convinced me that the Canton bird with the yellow iris must be distinct. It had passed into the Norwich Museum; but I had with me a rufescent bird of the same race from South Fokien. Mr. J. H. Gurney lent me the Norwich specimen; and after careful comparison with my series of its Chinese ally, I beg to offer the following distinctive characters under a name taken from its chestnut-coloured knee (*καμπὴ=flexus*):—

LEMPIJIUS ERYTHROCAMPE.

This is a smaller bird than typical *L. glabripes,* mihi. It is to be distinguished by the patch of brown round the eye continuing backwards to the ear-tuft. Its collar is not continued across the breast. The reddish bands across the wing-quills are broader, and there is a distinct patch of cinnamon on its knee-joints (whence its name). I transcribe from the paper above referred to my notes on the fresh Canton bird.

Length 8·5 inches, wing 7, tail 3·6. Bill pale flesh-grey, with a pale yellowish rim to the mandibles. Eyes very large, about ·8 inch in diameter; iris golden burnt-sienna, but so narrow, that this colour is seldom visible, the immense pupil filling nearly all the space between the lids. Skin round the eye madder-brown. Ear-coverts very large and oval, nearly $\frac{6}{8}$ inch in length by about $\frac{4}{8}$ in width, the lunar-shaped orifice occupying about one third of the oval on the part distant from the eye; colour of the conch-rim yellowish, inside light blue-grey. Legs feathered to the end of tarsus; toes naked, light brownish flesh-colour; claws light brownish grey, with blackish tips. There were numerous eggs in the ovary.

A female *L. glabripes* was brought to me up country at Ningpo on the 28th May, together with its five young. In the old bird the iris was *black*; in the young birds deep blue. About this date, at the same place, the report of a gun fired at some Crows startled a female of this species from a hollow in the side of a large tree, which was partly filled up with débris and rubbish. The bird was shot, and a day or two after I sent a man to examine the hollow. After much search he came upon three round white eggs; their contents all gone, and a good bit of the shell of each gone also. We distinctly noticed on them the marks of the front teeth of a squirrel; and as the wood was full of the common species, concluded that it was the work of *Sciurus cinereopectus*, J. E. Gray. The note of this Owl may be heard for a great part of the night in its breeding-localities. It consists of a long *cóu*, uttered loudly and with stress. *Ephialtes glabripes* was described in the Ann. & Mag. Nat. Hist. 1870, vol. vi. p. 152.

XXXII.—*A Reply to Mr. Allan Hume's Review*[*] *of 'Die Papageien' of Dr. Otto Finsch.* By ARTHUR, Viscount WALDEN, M.B.O.U.

DR. FINSCH published the first volume of his famous monograph of the Psittacidæ in 1867; the second volume in 1868. Mr. Hume has (*l. c.*) reviewed the work in 1874. It is of the highest importance that the reader of the Review and of the following remarks should constantly bear the last two dates in his memory. But the reader will be disappointed if, misled by the full title of Mr. Hume's review, "Die Papageien," he expects a comprehensive account of the entire work. For, though the footfall of Mr. Hume is not usually deterred by angelic fears, in this critique of a complete work on the Parrots of the world he has only favoured us with the benefit of his views on Dr. Finsch's treatment of eleven species, belonging to a single genus, *Palæornis*. Truly but a small portion of Dr. Finsch's exhaustive monograph of the Order! Mr. Hume's critical remarks, though thus narrowed, cannot be described as either strictly complimentary or enucleate. He assures us his "relations" with Dr. Finsch "have always been most friendly" (*t. c.* p. 28); but his first impulse, after grudging the postage on a second copy, was "to throw the book into the fire" (*t. c.* p. 4); and in this dignified frame of mind he proceeds, by a pitiless bespattering of Dr. Finsch, to still further cement their "friendly relations." Besides many smaller, two serious charges are brought against Dr. Finsch. He is accused of treating Jerdon, Blyth, and all Indian ornithologists generally with slighting discourtesy; and, secondly, of displaying a wanton and perverse ignorance of the species he has written upon—"error too, entirely gratuitous" (*t. c.* p. 1). It is proposed in the following remarks to examine into these accusations and to ascertain whether, considering their gravity when brought against a scientific man, they rest upon any more solid foundation than Mr. Hume's assertions. With this object in view each species known in the skin by Mr. Hume will be treated separately and in its order, while the remarks of Mr. Hume on the remaining species of the genus, unknown to him, will be left unnoticed. Some preliminary and lesser (speaking comparatively) attacks on Dr. Finsch deserve a cursory review, and may conveniently be at once referred to.

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[*] Stray Feathers, ii. pp. 1–28 (1874).

Before entering into details, Mr. Hume records his "humble protest against the presumptuous . . . . systematic pedantry which characterizes a certain section (chiefly continental) of naturalists, and leads them to discard the names given, too often by better men than themselves, ... for new-fangled appellations of their own, because, forsooth, their vast classical attainments have enabled them to discover that the original name is not a '*classich** *gebildetes wort*'†. Dr. Finsch is a hardened offender in this respect, and cannot possibly be recommended to mercy" (*t. c.* p. 2). And Dr. Finsch is then fallen upon for his alterations of the specific titles *schisticeps*, Hodgs., and "Jerdon's‡ *columboides*," to *hodgsoni* and *peristerodes*. "Let us," Mr. Hume exclaims with an inimitable humour, "Let us treat our author as he treats other people's species. '*Finsch*'§! contrary to all rules of orthography! what is that '*s*' doing there? '*Finch*'! *Dr. Fringilla*, MIHI! Classich|| gebildetes wort¶!!" (*l.c.*). Nor is this dull drollery permitted to expire. For, once and again, in sentences such as "now to return to Dr. Fringilla, I mean Finsch" (*t. c.* p. 4),

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* Corrected in *errata*. † *Sic.* ‡ *Sic.*

§ All words in italics throughout this paper, other than titles of species, are so printed by Mr. Hume.

|| Corrected in *errata*. ¶ *Sic.*

and "regardless of the whole family of *Fringillidæ*" (*t. c.* p. 20), its ghastly echos grate on the tortured senses. It is not desired to be too hard on these feeble witicisms, nascent genius deserves encouragement, and their transcription to the pages of 'The Ibis' is a penalty sufficiently severe. Moreover it may be assured that if indulgence in such dreary buffoonery amuses Mr. Hume, or assists in promoting in India, if not the credit, at least the sale, of his periodical, Dr. Finsch will not grudge him the gratification. But deserving of passing notice is the fact that even when elaborating a joke, Mr. Hume cannot avoid being linguistically inaccurate. The German proper name 'Finsch' and the English substantive 'finch' are not synonymous.

In his concluding page (*t. c.* 28) Mr. Hume asks, "Pray Dr. Finsch how can it advance our real objects one atom, to call a bird that every one recognizes as 'columboides' by your *truly* classical name 'peristerodes'?" Without presuming to divine what Mr. Hume's "real objects" may be, the simple answer is that *peristerodes* is right and *columboides* is wrong. Let the literal meaning of the word *columboides* be expressed by a combination of English and French, or of English and German words, instead of Latin and Greek, and the grotesque incongruity will become apparent. Thus, Pigeonsemblable, or Pigeonähnlich, parrakeet. But from a writer who, when reviewing the masterly scientific work of a highly educated gentleman, descends to the use of slang terms and repellent vulgarisms, it may be too much to expect any appreciative sympathy with the modes of expression of a refined and cultured intellect.

This assumption is not weakened by the passage now to be quoted, containing the reply of "an unsophisticated field-naturalist here" to the question put by Mr. Hume of "what he thought of these Continental naturalists, with their eternal new names, and the everlasting '*mihi*' tagged on after them." "'Well' he said 'I guess the beggars can't discover any new species of their own, so they have dodged up this classical jim, to legalize their stealing other people's'" (*t. c.* p. 2). May it be asked, not from motives of mere curiosity, but for the information of ("the beggars"), the benighted naturalists of Europe, whether this is the style in which Indian field naturalists converse, or, at the least, those with whom Mr. Hume associates? or are we to take it as being only a sample of that language of the future "100 years hence, when English is spoken, as it then will be, by 500 millions of people?" (*t. c.* p. 4).

Not content with next gracefully indicating in these choice lines,

"'Him as prigs vot isn't his'n,
Ven he's cotched 'ill go to pris'n,'"

the proper abode of Dr. Finsch, Mr. Hume further threatens him, and authors like him, with the pillory—"and if the learned authors escape the pillory they so richly deserve (and it shall be no fault of mine if they do), at any rate we have the consolation of knowing, that posterity if it cannot 'quod' them 'will quod,'" etc. (*t. c.* p. 3). There is something sublimely comical in this gentleman's threat to "pillory" those authors whose principles of nomenclature differ from his own. That Mr. Hume, single handed, is fully capable of providing an abundant supply of the appropriate missiles is not impossible. But who will assist in erecting the pillory?

There is also another form of pedantry which greatly exercises Mr. Hume; that "curious custom of parading brief descriptions in what is *supposed* to be Latin; as prefixes or tags to full, sound, sufficient English or German ones" (*t. c.* p. 3). "The motives that lead authors into this somewhat meaningless practice" (*l. c.*) are then analyzed, all that is ungenerous being attributed to them, while the self-evident reason escapes Mr. Hume's powers of conception. We are then assured, in solemn, prophetic tones and with a startling confidence, untempered by even a single, favourite, unctuous, saving adjuration of "D. V.," "that 100 years hence, when English is spoken, as it then will be, by 500 millions of people, any of their writings that survive, will do so only in expurgated editions from which all the 'Latin' has been carefully expunged" (*t. c.* p. 4). Then it is seriously suggested that Latin should be discarded and that all descriptions should be written in either English, German, or French—it being overlooked that while naturalists of all nations might and do agree to employ Latin as a common medium of thought-exchange, it is most improbable that they would consent to forego using their own language and to adopt that of some rival nation. The Swedes, Norwegians, Danes, Russians, Dutch, Hungarians, Poles, Czechs, Spaniards, Portuguese, and Italians have all produced and are producing naturalists. Why are they to be condemned to write in English, French, or German? Would Mr. Hume consider it fair, when desirous of making known the discovery of a *Dissemuroides dicruriformis**(!), to be restricted to the use of the Czech, Russian, or Hungarian tongues? Is not Latin also that language in which descriptions can be rendered with the greatest precision and conciseness? M. Severtzoff's recent work, 'Turkestanskie Sevotnie," is a case in point. It contains descriptions of many new species, and is entirely in Russian. It might be argued that M. Severtzoff should have written in English, French, or German. But perhaps M. Severtzoff may think that "100 years hence" Russian will be spoken by "500 millions of people" rather than English. Mr. Hume's proposal carries its own refutation.

Knowledge of the past and current literature implied, in natural history, by the term 'synonymy' meets with as little favour from Mr. Hume as every other branch of knowledge in which he is not a proficient. It is even doubtful, judging from his remarks, whether the meaning involved in the term is not somewhat beyond his grasp. A good synonymist, among other things, knows every description of a species, or, in other words, every species that has been described, and consequently the correct geographical range of each species. His statements of facts are therefore more likely to be accurate than those of the illiterate writer. If Mr. Hume were a synonymist he would have spared us many stale facts under the name of "novelties." Nor would he, for example, have recorded (*op. cit.* i. p. 378. no. 452) that a bird whose range is restricted to South China, *Ixus chrysorrhoides*, Lafr., occurs

* Hume, Str. Feath. i. p. 408.

in the centre of India. If the author of the excellent paper* in which this appears (*t. c.*) had only been allowed to follow Jerdon this blunder would have been avoided.

All through the Review there runs an endeavour to resuscitate fallacies, long since refuted and buried in Europe, concerning the superiority of one class of naturalists over another. Mr. Hume has noticed "a tendency on the part of the compilers of other men's observations to exalt themselves above the observers," etc. (*t. c.* p. 26) and a great deal more in the same imaginative strain, the outcome of but groundless though honest delusions. Can any one of my readers find among the past or daily writings of European naturalists a parallel to the exalted and vaniloquent self-assertion of this "humble student of many branches of Natural History" (*t. c.* p. 26)? Some stray sentiments contained in the concluding paragraphs of his Review are, though devoid of novelty, unimpeachable. But from the general drift of Mr. Hume's criticisms it is to be gathered that the men whose position, by choice or accident, enables them to live for a period of years in a country where certain animals are indigenous, and who, by means of their native collectors or by their own hands, are able to convert them into specimens from "the flesh," are immeasureably superior to the man who endeavours to evolve order out of chaos, and to marshal the disconnected often ill-digested and sometimes erroneous observations made by them. It is the old squabble between the belly and the members, and is certainly unworthy of discussion. But I venture to maintain that workers in the cause of any science are superior or inferior according to the amount of knowledge possessed by them of their special subject. To be a "trustworthy" field naturalist, who is after all only an observer of a single class of phenomena, he must have acquired, by long and assiduous study, all that has been recorded as observed by former naturalists. He must not only have a thorough knowledge of his own branch of natural history, but he must possess a more than general acquaintance with every other branch. By this means, and this only, will he know what to observe and how to observe. Knowing all that has been written, he will know what species have been described, what problems demand solution, and he will not bore the world with repetitions of well-known facts or records of trivial and useless observations. Another essential quality is that which gives the power of recording with precision and terseness, untainted by an inflated, sententious, and dogmatic egotism, the results of his observations. Such was Dr. Jerdon. If asked to illustrate my meaning by a living standard I would name Mr. Wallace as the highest.

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* R. M. Adam, "Notes on the Birds of the Sambhur Lake."

"Let the cabinet naturalist stick to his synonyms . . . . but let him avoid the presumption of disputing and denying the facts stated by admittedly trustworthy members of this latter class" (field workers) "because they happen to run counter to his own theories" (*t.c.* p. 27). It would be easy to point out the numberless erroneous observations made by field workers, Indian field workers to boot, even with the objects of their observations constantly before their eyes. And are naturalists in Europe (the most of whom, if not all, have been in their day, and are even now, field workers) to be charged with presumption when they "dispute" or "deny" such erroneous observations, or can show an absence of conclusive evidence? Why, the healthy progress of science depends on antagonism; it is by the flails of disputation that the truth is threshed out. But it is new to hear that a naturalist is open to imputations of presumption when he "disputes or denies" the accuracy of other men's observations. May we not, without being chargeable with flattery, venture to assume that Mr. Hume falls within his own definition of a trustworthy field naturalist; and yet was he not the discoverer, describer, and namer of *Niltava leucotis* (Ibis, 1870, p. 144)? An achievement almost vying in brilliancy with that of the discoverer of *Sparactes cristata.* Should a cabinet naturalist be debarred from disputing such an observation if he found it "ran counter to his own theories" of structure? In this instance cabinet naturalists were saved from the disagreeable duty; for I believe Mr. Hume subsequently suggested that he had described from a made-up specimen (Zool. Rec. vii. p. 50). But ornithologists generally owe a deep debt of gratitude to Mr. Brooks for having first shown in detail, through the Editor of 'The Ibis' (1871, p. 445, note), the real nature of this interesting species. Otherwise it might, for many years, if not for ever, have remained an object of hopeless longing to the Indian field ornithologist, and a perplexing puzzle to his less fortunate brethren the cabinet naturalists of the world. But as this useful information has been "paraded" only "in what is supposed to be Latin" and without a "full, sound, sufficient English or German" description, below is given* a translation for the benefit of the "500 millions of people" by whom "100 years hence" English will be spoken; and who will then only possess "expurgated editions" of 'The Ibis,' if it "survives," and "from which all the 'Latin' has been carefully expunged."

As previously stated, one of the most serious accusations brought against Dr. Finsch is that of slighting discourtesy to Jerdon, Blyth, and other Indian naturalists. I have carefully read and reread the whole of Dr. Finsch's text, and have been unable to discover a passage that can, unless twisted, be fairly said to support the charge. "Dr. Finsch, a cabinet naturalist, on the strength, mainly, of some mis-sexed specimens in museums, takes on himself to disregard and disbelieve the positive statements of working field naturalists. Most pathetically does he lament our ignorance, (he should have spoken for himself, I think, not others!). He says (p. 26);" and then follows Dr. Finsch's general remarks commencing with, "Unfortunately we lack almost entirely a thorough observation of the Parrots" (Papag. i. p. 26)—remarks absolutely true when Dr. Finsch wrote, even if applied to the Indian Parrots, and still so of the greater part of the species to this day. Dr. Finsch in the passage quoted uses the word "Parrots" generally and in its widest sense. Mr. Hume, by restricting its meaning to the half dozen or so of species he has seen, dexterously turns Dr. Finsch's general remarks into a reflection on Jerdon. And yet Mr. Hume's tender and disinterested solicitude for Jerdon's reputation does not prevent him thus writing of Jerdon "that owing to his ill health in later years and his disregard for the literary side of his work" his "merits" "have been greatly underrated;" and further on "I admit that his book embodies many grave errors" (*t. c.* p. 5). His "merits underrated"! By whom, where? Not in Europe, surely not throughout India! "Disregard for the literary side of his work"! to be said of a man whose extraordinary acquaintance with the literature of his subject is displayed in all he wrote. Extraordinary in Jerdon, for in his day communication with Europe was infrequent and the land was not flooded, as now, with manuals and hand-books whereby the most shallow can attain with small exertion a smattering of facts sufficient to babble about under the name of science. "Grave errors"! It may be so. I have not detected them. But Mr. Hume says so. Dr. Finsch does not*. Mr. Blyth, with whose conclusions Dr. Finsch is not always in accord, was, while in India, essentially a cabinet naturalist. During the many years of his Indian sojourn he hardly quitted† the four walls of the museum his genius, knowledge, industry, and indomitable energy raised to the highest rank. Of the fourteen species of the genus *Palæornis* enumerated by Dr. Finsch he knew, previous to 1868, in the wild state, at the most only four—*P. torquatus*, *P. cyanocephalus* of Bengal, *P. eupatrius*, and *P. melanorhynchus*. As caged birds he may occasionally have seen two more—*P. schisticeps*, and perhaps *P. longicaudatus*.

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* "A manufactured bird, body of the *Rufous-bellied Fairy blue-chat*, head of the *Indian grey-tit*" (Ibis, *l. c.*). Dr. Finsch, although stigmatized a "pseudo-classicist" by Mr. Hume (*t. c.* p. 4), is doubtless competent to supply a "full, sound, sufficient German" description, if required.

Let us now take each of the species of the genus *Palæornis* in the sequence followed by Mr. Hume, and examine into the merits and justness of his criticisms. First comes *Palæornis eupatrius* (Linn.) = *P. alexandri* (Linn.) of Jerdon, Blyth, and the older Indian writers, subdivided by Mr. Hume in his Review, and for the first time, into three distinct species. Mr.

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* No man, with so long a career, made fewer bad "species" than Dr. Jerdon, proof by itself of his knowledge of his subject.

† I believe he only made two excursions of any importance—one to the Midnapur jungles and, much later, on account of illness, one to Burma.

Hume's arguments in support of this subdivision have therefore no bearing on Dr. Finsch beyond this, that our German author followed both Blyth and Jerdon and nearly every other Indian naturalist when keeping the species united, while Mr. Hume differs from them. Captain Hutton last year, and also for the first time (Str. Feath. i. pp. 335, 338), had already subdivided one of Mr. Hume's three species into four distinct species; so that between these two Indian field naturalists the species, *P. eupatrius*, which Jerdon and Blyth had considered one and the same, is broken up into six species. "Dr. Finsch did not discriminate these three species and perhaps may not admit them now" (*t. c.* p. 11). Quite true. Unfortunately Dr. Finsch had followed Jerdon and Blyth, and had not foreseen in 1868 what Mr. Hume's great superiority of perception was going to discover in 1874. Mr. Hume then proceeds to quote the greater part of the passage in which Dr. Finsch states his reasons, in opposition to Jerdon and Blyth's recorded opinions, though stated with complete courtesy, for not feeling convinced that the sexes in *P. eupatrius* are distinguished by sexual peculiarities of plumage (Papag. ii. p. 14). After which Mr. Hume exclaims, "Please note the modesty and courtesy of this passage! Dr. Jerdon and Blyth (who have examined the fresh birds) state so and so, but Dr. Finch thinks it is very probable that it is *quite* the contrary. Like the Psalmist of old, Dr. Finsch seems to have 'said in his heart that all men are liars'" (*l. c.*). There is not a word of discourtesy nor of dogmatism in the whole passage, though made to wear a semblance of egotism by Mr. Hume omitting, I will not say intentionally, to quote the concluding sentence. Here is the omitted final sentence with which the passage, as transcribed by Mr. Hume (*t. c.* p. 11), should be read. "Inasmuch as I must therefore in the meanwhile leave the question undecided, I commend it to the attention of all ornithologists (lege ich sie allen Ornithologen an's Herz)" (Papag. *l. c.*).

Jerdon and Blyth state that the large rose-ringed Parrakeets of Ceylon, the Andamans, and of the continent belong to one species. Mr. Hume states that they constitute three species. Mr. Hume may differ. Dr. Finsch may not. We then are favoured with the information that Mr. Hume has "dissected at the *very least* fifty specimens of *P. sivalensis*" and that "Davison and I have recently sexed eighteen of *magnirostris*"*. And all that Mr. Oates and Captain Feilden and Messrs. Legge and G. Nevill have done and told Mr. Hume, that is, within the last year or two and with results unpublished until 1874, therefore has no bearing whatever on the conclusions arrived at by Dr. Finsch from the evidence existing previous to 1868.

And here let us pause to consider how is Dr. Finsch to deal with *P. eupatrius* when he is producing "a second and *most materially* revised edition" (*t. c.* p. 1), especially if Mr. Hume's hope of living to see it is likely to be realized. Captain Hutton, "our oldest Indian naturalist, who knew all about these Paroquets long before Dr. Finsch was born" (*t. c.* p. 14) and who "is quite a Paroquet fancier" (*t. c.* p. 12), says there are, and has named, four species on the Indian continent. Mr. Hume, "editor of the sole Indian ornithological journal," states that there is only one. Both are Indian field naturalists, who besides "contradicting†" Jerdon and Blyth, "contradict" one another. True, Dr. Finsch in his perplexity may point out that one species, *P. sacer*, Hutton (Str. Feath. i. p. 337), has never been seen by its discoverer, and that "the natives cannot distinguish" it from the common species; that another, *P. punjabi* [!], Hutton (*t.c.* p. 338), also "regarded by the natives as identical" (*l. c.*), chiefly differs by "sometimes sitting the whole day through without uttering any sound at all," its cry, however, when heard, differentiating the species by "being much more feeble and slightly croaking" (*l. c.*). While of *P. vindhiana*, Hutton (*l. c.*), its discoverer, describer, and denominator had "seen but one specimen and that was a half-fledged nestling brought to me for sale at Monghyr many years ago" (*l. c.*), and he has "failed to procure a specimen since" (*l. c.*). But of what avail these reasons when urged by a cabinet naturalist "on the strength of half a dozen wrongly sexed skins in some museum, taking upon himself to contradict the definite statements of trustworthy field naturalists like those" I have "referred to, in regard to matters of which he can personally know nothing" (*t. c.* p. 2). Would it not appear "to indicate a tone of thought incompatible with the philosophical investigation of any branch of physical science" (*l. c.*)?

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* Titles recently proposed for two of the fragments of *P. eupatrius*.

† The noble passage commencing "I contradict Dr. Finsch, and would contradict any one else," etc. (*t. c.* p. 8), and others, displaying almost equal beauties, a lack of space compels reluctant omission.

"'What the young birds are like is unfortunately never said.' Well, let Dr. Finsch hear what Captain Hutton says" (*t. c.* p. 12). Dr. Finsch's remark was absolutely true when he published it, and the plumage and colouring of the young birds remained undescribed until 1873, when Captain Hutton first published his account (*t. c.* p. 336), to which Mr. Hume now refers Dr. Finsch in 1874, without, however, indicating the source or the date, and thereby leaving the reader to infer that Dr. Finsch ought to have known it.

Mr. Hume then notices a geographical error in this wise:—"As for what Dr. Finsch *can* prove, about *torquatus* and *cyanocephalus*, we shall see hereafter, in the mean time in regard to the present group of species, I would remark, that if Leith Adams really says he found any one of them common in the 'Forest districts of Ladakh,' I will not contradict him, *but* I can only say I have been all over Ladakh, twice*, without being so fortunate as to meet with any Forest district, and that I never myself met with the large rose-ringed Paroquet in Ladakh . . . ." (*t. c.* pp. 12, 13). What Dr. Finsch does really make Leith Adams say is "very common in all the forest districts of Cashmere and Ladakh" (Papag. ii. p. 15). This is taken from Mr. Adams's paper "The Birds of Cashmere and Ladakh" (P. Z. S. 1859, p. 169); and Dr. Finsch has inadvertently added the words "and Ladakh" to the phrase "wooded slopes of the lesser ranges southward of Cashmere." That Dr. Finsch was nodding at the time he made the quotation is true; but surely it was a very little nod and easily explained, and Mr. Hume ought to have given the quotation in full. In his account of the complete range of the species (*t. c.* pp. 14, 15) Dr. Finsch correctly excludes Ladakh while retaining Cashmere.

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* Does not Mr. Hume here rather hide his light under a bushel? What, no further than Ladakh? The booksellers have recently enriched my library with a copy of a work entitled "Lahore to Yarkand, Henderson and Hume."

Mr. Hume then favours us with this criticism:—"Dr. Finsch says, that *eupatrius* never frequents gardens or towns, but I may mention that the last time (November 9th, 1867), I was up the minars of the Juma or Badishaiee Musjid at Lahore, a huge flock of *sivalensis* were wheeling and screaming round me," etc. (*t. c.* p. 13). Dr. Finsch's statement is nevertheless perfectly accurate and in accordance with the recorded observations of all Indian naturalists (*conf.* Blyth, J. A. S. B. 1850, p. 232, and Ibis, 1863, p. 3; and Jerdon, B. of Ind. i. p. 257). Anyhow, could Dr. Finsch possibly know, fully admitting the vast importance of the fact (only published in 1874), that Mr. Hume "the last time" he "was up the minars of the Juma or Badishaiee Musjid at Lahore," namely the 9th of November, 1867, had made this valuable observation? And had he known, could Dr. Finsch have stated it without risking the imputation of "pooh-poohing contemptuously the recorded experience of men like Jerdon and Blyth" (*t. c.* p. 2)? With a due feeling of awe, and under correction, I venture to surmise that, after all, the huge flock noticed by Mr. Hume when he last "was up the minars of the Juma," etc., was one of *P. torquatus*.

"Let us now turn to (4) *torquatus*" [*Palæornis torquatus* (Boddaert)], "and first hear what our learned Dr. has to say" (*t. c.* p. 13); and Mr. Hume transcribes the passage wherein Dr. Finsch endeavours to substantiate his theory that the sexes in the adult birds wear a similar dress. Dr. Finsch's reasoning is not convincing; but the argument is conducted with perfect propriety, and his data, such as they are, placed fully before the reader. But Mr. Hume, by means of a mistranslation of a German word used by Dr. Finsch, tries to fasten on him the charge of speaking slightingly of Indian naturalists. "Dieser betrifft nämlich die angeblich grüne Färbung des ♀, wie sie von Blyth, Layard und Jerdon angegeben wird" (Papag. ii. p. 25). This sentence has been separately submitted to two

German gentlemen, and, without mentioning any reasons, they were asked to translate it. One is a gentleman of the highest scientific distinction, the other an independent gentleman of education, both understanding, writing, and speaking English perfectly. By both it was thus rendered: "This (point), namely, relates to the alleged (angeblich) green coloration of the female as stated by Blyth, etc." By Mr. Hume the German word "angeblich" is translated "pretended;" and having laid, through this misrendering of its true meaning, the foundation of a charge of discourtesy against Dr. Finsch, he observes half a page further on: "Here then are Dr. Finsch's strong proofs; proofs which in his opinion justify his speaking of what Jerdon, Layard, Blyth, Hutton, and a dozen other Indian naturalists have stated as facts, the result of their personal observations, as '*pretences*'" (*t. c.* p. 14). I am also assured by my two German friends that there is neither in the sentence quoted, nor throughout Dr. Finsch's argument, a trace of discourtesy to any one, and that by no fair construction, more especially when judged by the context, can the word "angeblich" be here rendered by the English verb "pretend" in its offensive sense. It will also be observed that Captain Hutton's name, not to mention the "dozen other Indian naturalists," is introduced by Mr. Hume, although not alluded to by Dr. Finsch, and moreover although Mr. Hume must have been well aware that Captain Hutton had never published any remarks on Parrots previous to 1873 that could reasonably be known to Dr. Finsch*. Mr. Hume having, by this skilful introduction of the offensive word "*pretences*," created in the superficial reader a prejudice against Dr. Finsch, proceeds, with many italicized words and outbursts of infallibility, to discuss Dr. Finsch's "proofs," and then continues, "Nothing, we are again informed, is said of the young. Well let our oldest Indian naturalist, who knew all about these Paroquets long before Dr. Finsch was born, enlighten him" (*t. c.* p. 14). Captain Hutton's description of the young (Str. Feath. i. p. 339) is then quoted, the reference and date 1873 being omitted and the impression left on the reader's mind that something had been said of the young when Dr. Finsch wrote, and that somehow or other he ought to have known it.

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* As a matter of fact I believe there were no published remarks on the subject by Captain Hutton extant when Dr. Finsch wrote, much less by a "dozen other Indian naturalists."

Dr. Finsch, for his account of *Palæornis cyanocephalus* (Linn.), is next passed under the harrow. "Here, according to my views, Dr. Finsch has combined two distinct species. In the one, which I will call *purpureus*, Mull* (Dr. Finsch will set me† right, doubtless, about the synonymy)," etc.: then descriptions of the two species and their differentiating characters are fully given, wound up with "I do not entertain the smallest doubt that Dr. Finsch is in error in uniting these two forms . . . ." (*t. c.* pp. 15, 16). From this it might fairly be presumed that Dr. Finsch in or before 1868 had heard of there being two species, those alluded to by Mr. Hume, but had declined recognizing them as distinct. Nothing of the sort. Their existence was known to no one at the time; and Dr. Finsch adopted the published statements of Jerdon and Blyth, neither of whom then ever suspected that two closely allied geographical races were being confounded under one title. The fact was, however, first discovered by Mr. Gould, and first made known by Mr. Blyth in 1870. "*Palæornis rosa.* Some time ago Mr. Gould called my attention to two races confounded under this name, which are evidently distinct," etc. (Blyth, Ibis, 1870, p. 162). On Jerdon's return to England I showed to him skins of the two forms, and he at once admitted that they might fairly be considered as belonging to two species; and in 1872 (Ibis, (3) ii. p. 6) he published, in a supplementary note to the 'Birds of India,' his concurrence with Blyth's opinion. "My views" had therefore been long before held by Gould, Blyth, Jerdon, and other European naturalists; but they were first promulgated, and by Blyth, two years after the publishing date of 'Die Papageien.' The two supposed species of the late Mr.

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* *Sic.*

† Or rather the late Mr. G. R. Gray (Hand-list, no. 8054), who in his turn got the title from Cassin (P. Ac. N. Sc. Philadelphia, 1864, p. 239).

Gray's list of the *Psittacidæ* (1859, pp. 20, 21), *P. bengalensis* and *P. rosa,* were nothing but phases of the plumage of the Nipaul bird.

We next come upon another illustration of Mr. Hume's logical obliquity. "We are told that 'Alas! the Indian ornithologists give us no satisfactory answer to many of the most difficult questions. Jerdon only says, that the female has a blue head and that the young are green'" (*t. c.* p. 16). "Alas!" is Mr. Hume's rendering of the German word "leider," and, with the note of exclamation introduced by Mr. Hume, helps to give the passage an air of contemptuous pity which is not in the original German. It is therefore necessary to quote Dr. Finsch's own words:—"Leider geben uns die indischen Ornithologen über viele derartige schwierige Fragen nicht die gewünschte Auskunft" (Papag. ii. p. 47). "Unfortunately the Indian ornithologists do not give us the wished-for information on many of the difficult questions of that class" is a fair translation of the passage; and Dr. Finsch's observation, being strictly accurate when he wrote, can only be met by Mr. Hume as follows, for he cannot quote the writings of a single author previous to 1868:—"Does he want 'a full, true, and particular account' from one who has taken scores of *purpureus* from their nest-holes and reared them by dozens? Let Captain Hutton speak; his synonymy is faulty, he is no cabinet naturalist, but he knows the *birds* as well as he does his own children" (*t. c.* pp. 16, 17). And then, as usual, follows an extract from Captain Hutton's paper (Str. Feath. i. p. 344) published five years after the publication of Dr. Finsch's work, but without the date and reference now given being quoted. Indeed the information the absence of which Dr. Finsch most justly regretted in 1868, is only supplied in 1873, and then in 1874 flung in his teeth for having wished for it.

Further notice of Mr. Hume's criticisms in connexion with this species might be omitted did they not comprise the following gross personal insult to Dr. Finsch:—"Orange yellow wing-spot birds are common enough, and if he will pay the postage and *return* the specimen, I will send him one to look at" (*t. c.* p. 17). To the word "*return*," printed in italics, is appended this footnote, with which, I much regret, I must soil these pages by transcribing:—"This is not a matter of course, because a naturalist who begins by appropriating his neighbour's species, *may* end by annexing their specimens. As Dr. Finsch would doubtless say '*Facile** *descensus, etc.*!'"

Having delivered himself of this magnanimous sentiment, with its playful insinuation of a felonious tendency in Dr. Finsch, a passage which will only escape the indignant reprobation of all high-minded men, when it escapes observation, Mr. Hume proceeds to discuss Dr. Finsch's treatment of *Palæornis schisticeps*, Hodgson. After another offensive personality, a wretched joke about "his sensitive classical nerves!" Mr. Hume quotes and criticises thus:—"'According to Blyth' (and he might have added Hodgson who described the bird, Jerdon, and a dozen others), 'the females are only distinguished by the absence of the red-brown wing spot.' Blyth of course being *no* authority any more than other Indian ornithologists, Dr. Finsch continues, 'I am much more inclined to conclude that the red-brown spot would appear also in the full plumaged female,' in other words he through his supreme wisdom without having examined a single bird in the flesh, is intuitively better acquainted with the state of the case than skilled practical naturalists who have dissected scores" (*t. c.* pp. 17, 18). Then comes in, as a *Deus ex machinâ*, the great, frequent dictatorial Ego†, with ponderous yet impotent effect. "Let me tell Dr. Finsch, that I personally must have sexed some thirty specimens of this species, and that the following is my experience" (*l. c.*). Of the "experience" which follows, not having been published when Dr. Finsch wrote, it is unnecessary to give more than the first sentence, "The female *always* wants the deep maroon red wing-spot," because it relates to the point in dispute and does not strictly accord with either Jerdon or Blyth's account. Jerdon says "a marone wing-spot in the male, barely indicated in the female" (B. Ind. i. p. 261); Blyth, "The adult sexes differ in the male having a small maronne spot on the wing, which is wanting or barely indicated in the female" (J.A.S.B. 1850, p. 232). So that even according to both Jerdon and Blyth the small maroon wing-spot of the male, though barely indicated, does "appear" in the female. But Dr. Finsch must be judged by what he, through a diligent and conscientious study of their published writings, had gathered that his authors personally knew, and not by what Mr. Hume, in more than exaggerated terms, says they did know. And although the fact may surprise my readers, in the face of Mr. Hume's audacious assertions just quoted, it is a fact that neither Jerdon, when he wrote the first volume of the 'Birds of India,' nor Blyth were well acquainted with this species. Nor is there up to 1868 a tittle of published proof that any "skilled practical naturalist" had dissected a single specimen of this species, much less "scores." Jerdon writes (*t.c.* p. 261) "rare in the south-east, for I never saw it myself, and got but one young specimen while at Darjeeling;" and what Jerdon relates about the species is derived from Tytler and Adams, both of whom have no remarks on the diversity of the sexes or about the plumage. Jerdon only became well acquainted with the bird when, subsequently to the publication of the first volume of his book, he visited the north-western Himalayas, where it is abundant. Blyth's acquaintance was not more extensive. It is almost certain that he had never seen the wild bird; for he had not been in the regions it inhabits. He probably may have seen caged specimens occasionally at Calcutta; but he says that captured specimens are seldom brought to that town (Ibis, 1863, p. 4). Who the "dozen others" are previous to 1868, I confess my total inability to even offer a conjecture; and possessing a fair acquaintance with Indian ornithological literature myself, I cannot blame Dr. Finsch for not knowing either.

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* What Dr. Finsch would "doubtless" have said, had he been quoting Virgil, is given in the *errata.*

† It may be here mentioned, as a matter of dry statistical detail, that apart from copious extracts from Dr. Finsch and Captain Hutton, and besides a host of "me's" "we's" "my's" and "us's," the first personal pronoun "I" occurs in the twenty-eight pages of this review at least one hundred and sixty-six times.

A slight mistake in degree Dr. Finsch has committed, concerning the range of *P. schisticeps,* his impartial critic is "compelled to point out" (*t. c.* p. 18). Dr. Finsch states in general terms that it is found "in" (not "throughout," as Mr. Hume or his translator of German erroneously renders "im grössten Theile") "the greatest part of the Indian continent;" but he correctly enough gives in detail the range as known at the time he wrote. Its range is enormous; for it extends from Cashmere (Griffiths is said to have observed it at Pushut), along the lower ridges of the Himalayas as far Eastern as Assam, and from Assam down to Pegu. Still, by some, Dr. Finsch's general statement might hypercritically be termed erroneous.

Now follows *Palæornis calthropæ,* Layard; and the facts connected with its history up to 1868 are few and simple. Few, because previous to the publishing date of Dr. Finsch's work only two naturalists had written about the species, namely Blyth and Layard. Blyth's part was confined to the description, on behalf of Layard, of two skins sent by Layard to Calcutta (J. A. S. B. 1849, p. 800). One of these, with "upper mandible bright coral, with a white tip; the lower reddish," Blyth determined to be a male; the other, with "both the mandibles dull coral with white tips," he characterized as belonging to a female or young male. Later (*op. c.* 1850, p. 234) mention is made by him of the receipt of three more specimens; but not one word is said about the characters whereby the sexes are distinguished, nor are they even described; and I cannot find a passage in any of Blyth's writings previous to 1868 where he defines the distinctions; and I believe this is all Blyth wrote or knew about this purely Ceylon species up to that date. Layard, in his "Notes on the Ornithology of Ceylon" (Ann. N. H. (2) xiii. p. 263, no. 177), omitted all description of the bird, and merely gave an account of its habits. He said nothing whatever about the colouring of the sexes. This author never published previous to 1868 in any scientific work or elsewhere another word about *P. calthropæ.* Nor does Dr. Finsch appear to have been more successful in his search for information, and he is most particular throughout his admirable and exhaustive work in giving all references bearing on his subject. Kelaart, who, besides Layard, was the only ornithological author who may have seen *P. calthropæ* in "the flesh," merely includes its bare title in his list (Prodr. Faun. Zeylan. pp. xxx, 127). This embraces the sum total of the published facts regarding *P. calthropæ* up to 1868. And it was not until 1872 that it was made known that the female differed by having a black bill* (Holdsworth, P. Z. S. 1872, p. 426, no. 65). Mr. Hume knows this species by its skin only. Let me transcribe his remarks:—"When we turn to *calthropæ*, Layard, it is the same story; on no evidence, but his own personal conviction, on the contrary in the face of all existing evidence, Dr. Finsch calmly says: 'Questions in regard to differences in the adult plumage, and to whether the male and female are always differently coloured, still lack in this species an altogether more rigorous investigation. The numerous phases of plumage which I have seen, permit me to assert with tolerable certainty an entire similarity in both sexes. Noteworthy and wonderful however, always remains the black colour of the bill in the younger birds.' But as a matter of fact, no further investigation is required, because a dozen different observers have cleared up the main point at issue *viz.*, the colour of the adult female's bill, but our author absolutely ignores all this because it is irreconcileable with his theory! Unlike the other species with which I have previously dealt, I have never myself shot or dissected examples of *calthropæ*, but I have more faith in human testimony than our author apparently has, and having a large series of specimens carefully sexed by three different European observers, I can state the following with 'tolerable certainty' independently of what far better naturalists than myself have already recorded to a similar effect" (*t. c.* pp. 18, 19). I have given all the published facts within the possibility of Dr. Finsch's knowledge in 1868, and Mr.

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* Mr. Holdsworth, as he obligingly has told me *in epist.*, did not arrive at this conclusion through having dissected a single specimen, but was guided by the experience of Mr. Bligh, who had killed many examples. It is just possible that Dr. Templeton may have published remarks on this species, but I have never seen any.

Hume's observations on Dr. Finsch's account of this species. Mr. Hume carefully abstains from stating the name of a single observer with whose investigations Dr. Finsch ought to have been acquainted, and "in the face of whose evidence" Dr. Finsch "flies." Nor does he dare to name one of the "dozen different observers" whom "our author absolutely ignores," nor of the "naturalists" who "have already recorded to a similar effect." Since Layard and Kelaart, that is since 1868, the only Ceylon naturalists who have written in any accessible, even if any, scientific journal on Ceylon ornithology are Holdsworth, Vincent Legge, and Hugh Nevill; and the first is the only one who has touched on the point at issue, and then only in 1872.

The next Indian species known to Mr. Hume, *Palæornis melanorhynchus*, Wagler, was divided by Dr. Finsch, guided by the evidence existing in 1868 (Papag. ii. pp. 66, 70), into two species—*P. lathami*, Finsch, with the maxilla red in both sexes, and *P. melanorhynchus*, Wagler, with the bill, in both sexes, black. Subsequent investigations have led to the conclusion that these are sexual differences, and that only the adult male possesses a red maxilla, while the young birds and adult females possess black bills (*conf.* Walden, Ibis, 1873, p. 297, no. 2). For his conclusion, erroneous though it may now prove to be, Dr. Finsch is assailed with a volley of silly invective. Let, then, the facts before Dr. Finsch the facts recorded up to 1868, be examined. In the first place both Jerdon and Blyth confounded, by erroneous identification, the Indian bird and the Javan and Bornean *P. alexandri* (Birds of Ind. i. p. 263; Ibis, 1866, p. 353), and Dr. Finsch had therefore good grounds for being uncertain as to which of the two species they referred. Jerdon further described the bird as having "a large red* patch on the wing, formed by most of the lesser and some of the median coverts" (*l. c.*), which is not the case, as Dr. Finsch acutely remarks. Hodgson regarded the black-billed bird as belonging to a distinct species and named it *P. nigrirostris* (Gray, Zool. Misc. p. 85, 1844), and in the 'Calcutta Journal of Natural History' for 1847 (p.560) its specific validity, its claim to rank as distinct from the red-billed birds, is maintained. Mr. Blyth (J. A. S. B. 1846, p. 24, note) stated, "in *P. pondicerianus,* the upper mandible of the female is usually black, but often more or less mingled with red; that of the male being always bright coral-red." Writing in 1850 (*op. cit.* xix. p. 234) the same author states of this bird, "In a presumed female observed in captivity, the upper mandible changed from black to coral-red when the bird was about 18 months old." Later on (Ibis, 1866, pp. 353, 354), the last time Mr. Blyth wrote on the species, he says, "From an early age (before leaving the nest) the sexes differ in the male having the upper mandible coral-red*, while that of the female is black . . . . and in many females it perhaps remains permanently black, while in others it changes sooner or later to red." And he adds that he is "tolerably well acquainted with it, having spent a month in forests" with the species. Jerdon (*op. cit.* p. 263) describes the female in these words, "The female merely differs from the male by having a black bill at first, which changes to red in old or fully adult females." In the face of these conflicting opinions, is Dr. Finsch to be blamed for adopting an opinion of his own? and anyhow ought he to have been exposed to the insolent and insulting criticism which Mr. Hume, in relation to this species, heaps upon him? "(poor Jerdon and Blyth, always wrong! Finsch, the clever fellow, *always* right!!)" and then this observation on a remark of Dr. Finsch, "He adds with that deliciously bland assumption of superiority and omniscience which irradiates his pages" (*t. c.* p. 20). I will quote Dr. Finsch's opening words, "Ohne der Auctorität eines Blyth oder Jerdon zu nahe treten zu wollen" (*t. c.* p. 68). As to Jerdon's opinion on the moot point, it may be stated that up to the last he had not arrived at any decided conclusion. So uncertain was he, that by his advice, and in order to settle the question, a friend in Burma was written to and asked to collect and carefully mark the sex of as many specimens as he could obtain. And it may here be added that Jerdon felt and often expressed the highest admiration for Dr. Finsch's work on the *Psittacidæ* and respect for its author.

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* I suspect that the word "red" is a slip of the pen for yellow.

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* This is in direct opposition to what Mr. Hume lays down in the passage beginning "I too, who have seen thousands, and shot hundreds" (*t. c.* p. 20).

"*Columboides*, Jerdon*, disguised under Dr. Finsch's new name *peristerodes*, is the next species" (*t. c.* p. 21). That the specific title *columboides* was not bestowed by Jerdon is probably known to every ornithologist in India, except Mr. Hume; for both in his "Illustrations," where this Parrakeet was figured, and in his general work, Jerdon, with his accustomed accuracy, attributed the title to the first describer of the species. The species was first named by the late Mr. Vigors, a cabinet naturalist, so far as Malabar birds were concerned. And to it Mr. Hume holds a similar position, for he has never seen it "in the flesh." Hence the personal knowledge he has acquired during the five years that have elapsed since Dr. Finsch's work was published cannot be flaunted before the enchanted gaze of credulous disciples nor hurled at the unoffending head of Dr. Finsch. Still faults, however microscopic, must be found. "Really the wonders disclosed by this work pass human comprehension! Dr. Finsch records an adult male, from the Himalayas, in the Leyden Museum, and an adult *female, precisely similar*, to the male, also from the Himalayas!! in Heine's Museum. What *Himalayan* female *columboides* may be like, no mere Indian ornithologist could presume to say. We leave that to Dr. Finsch" (*l. c.*), and so on *more suo*. From this disingenuous passage the trusting reader would gather that Dr. Finsch had stated that *P. columboides* occurred in the Himalayas. He has done nothing of the kind. He has merely, as is his habit all through the work, and as most accurate writers do, identified the specimen from which he made his diagnosis; in this fashion—"Himalaya (Leidener Museum). ♂ ad. Kopf, Rücken und, etc.; ♀ ad. (Himalaya) im Museum Heine, ganz wie das ♂ gefärbt" (*t. c.* pp. 74, 75). When we turn to the passage giving the full geographical distribution we find the complete range stated with a sufficient accuracy in these words, "an der Malabarküste, bei Madras, im Decan, bei zum 17° nördlich, selten in den Neilgherries, bis auf Höhen von 5000'" (*t.c.* p. 76). The Himalayas are not included. But even here, notwithstanding Mr. Hume magniloquently has said that he has "not taken in hand to catalogue Dr. Finsch's errors" (*t. c.* p. 18), the little slip of the pen "bei Madras" is not overlooked. For, big as the beam is which intercepts the reviewer's critical vision, he is here able to espy this small mote in his brother naturalist's eye, and it is seized upon with all the charitable avidity compatible with "friendly relations." "Finsch tells us that this species is found in Madras; if he means the town or *district* of Madras (Chingleput) then he is certainly in error—if he means the *presidency* of Madras, then since the places he enumerates, the Malabar coast and the Nilghiris are both *in* this Presidency, it is, to say the least, surplusage, calculated to mislead;" and so on (*t. c.* p. 23). To an old Madrasee, one who has shot along with Jerdon many a specimen "in the flesh," to say nothing of Snipe in the paddy-fields of the Chingleput district, this phrase "*district* of Madras (Chingleput)" seems strange thunder. Madras was, and I believe is, a district by itself, with an area of some 30 square miles—bounded on the north by the Nellore district, to the west by the Arcot districts, and on the south by the Chingleput district, from which it is separated by the Adyar river. But this may be all changed, and the Madras and Chingleput districts may have been amalgamated*. If so, this local and parochial erudition in a high Bengal official is to be commended; but can it be reasonably expected from a European naturalist?

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* *Sic.* This is not an accidental slip of the pen. At page 2, Mr. Hume writes "and Jerdon's *columboides.*"

Of this species it may be also asserted that at the time Dr. Finsch wrote there was no published concurrent and convincing evidence on the moot point, the colouring of the bills in the two sexes. In the absence of adequate conclusive proof, Dr. Finsch maintained (*l. c.*), although with perfect deference to Dr. Jerdon, that the bills in the two sexes were coloured alike. I have frequently seen, and have shot, this species, and am inclined to think now, as I did then, that Jerdon's view is correct. Yet Sykes, an Indian ornithologist be it remembered, one who did not form his opinion from "half a dozen wrongly sexed skins in a museum," but from his own observations in the jungle, regarded the black-billed bird as specifically distinct from *P. columboides*, and bestowed on it a distinctive title, *P. melanorhynchus*. "Found in the ghauts. Sexes alike. This bird has the aspects of *Pal. columboides*, but differs in the black bill," etc. (Sykes, P.Z.S. 1832, p. 97). No other writer knew the species "in the flesh" previous to 1868. Mr. Blyth only knew it from a few "skins in a museum," and Dr. Finsch seems, in spite of Mr. Hume's remark, to make a fair observation when saying "Blyth is uncertain and says of the black-billed birds 'female or young'" (*l.c.*). But surely Dr. Finsch, even if shown by more recent investigation to have been in error, had and has a right to hold, advocate, and express an independent opinion, without being liable to insult in terms like these. "As usual, Dr. Finsch laments our ignorance in regard to all these species. It is really a pity that he will not be content to speak for himself. That *he* has still somewhat to learn is patent in every page, but the Indian ornithologists whose distinct statements he so unceremoniously ignores, puts aside, or directly contradicts, unfortunately for his reputation, are not quite so much "in tiefes* Dunkel" as himself" (*t. c.* p. 23). As I have shown, of the only three Indian ornithologists who had written, the first held one opinion, another the exact opposite, and the third, who only knew the species from a few museum skins, was uncertain. And yet Mr. Hume is a vindicator of truth. "It is not, however, for Dr. Finsch I write. Truth must be vindicated" (*t. c.* p. 26). Poor truth!

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* As a matter of fact I am informed *in epist.* by Sir Walter Elliot, the well-known and eminent Indian naturalist, that "Madras is certainly not included in Chingleput, but is a district by itself."

We now come to *P. erythrogenys*, Blyth. Dr. Finsch, in his account of the species, is, with an unaccustomed generosity, partly let off by Mr. Hume. For, in this instance, Dr. Finsch is not held responsible for not knowing in 1868 that the Andaman Parrakeet differed from the Nicobar *P. ery-*

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* Corrected in the *errata*.

throgenys—a fact, if it be a fact, only acquired by Mr. Hume in 1873. Indeed Dr. Finsch went wrong in consequence of his adopting the published opinions of Jerdon and Blyth; yet for this confidence in their superior authority he receives no credit from Mr. Hume. Both Dr. Jerdon (B. of Ind. i. p. 264) and Mr. Blyth on several occasions (Mouat's Andaman, Append. p. 355; Ibis, 1863, p. 5) regarded the Nicobar and Andaman Parrakeets as belonging to one species. As elsewhere, so here, it is Mr. Hume, and not Dr. Finsch, who differs from Jerdon and Blyth; and he will therefore doubtless apply to himself the epithets he has so freely bestowed on our German friend, whenever guilty of a similar heresy. But, we fear, 'that in the Captain 's but a choleric word, which in the soldier is flat blasphemy.' Nor does Dr. Finsch receive complete absolution; for, relying on the descriptions of the specimens marked ♂ and ♀, obtained in the Nicobars by the 'Novara' scientific expedition, that of a female communicated to him by Herr v. Pelzeln, Dr. Finsch suggested that Blyth's determination of a specimen with a black bill as a female (J. A. S. B. 1846, p. 23) was erroneous, and that he had described a young bird. "Unfortunately, for Dr. Finsch, it does nothing of the kind. Apud Finsch, Blyth is always wrong and Finsch is always right," etc. etc. "And in every single instance in which in regard to species of this genus, Dr. Finsch has questioned, disputed, or denied the correctness of Jerdon, Blyth, and other Indian ornithologists' statements, it is *he* and not *they* who have erred" (Str. Feath. *t.c.* p. 25). Well, is this a fact? and, with regard to this species, does Dr. Finsch contradict Jerdon, Blyth, and other Indian ornithologists? It has already been shown that by not contradicting Jerdon and Blyth on several important points Dr. Finsch is, according to Mr. Hume, wrong. Blyth, it must be remembered, only described his *P. erythrogenys* from skins with sexes undetermined brought to him at Calcutta by Captain Lewis and the Rev. J. Barbe. Neither he nor Jerdon had "for a long series of years," not even for a single minute, "observed the free living birds, shot and dissected them," which, according to Mr. Hume, alone confers the right of stating an independent opinion. But what does Colonel Tytler say in 1867? That gentleman resided for some time in the Andamans as governor. He was an accurate observer, and discovered and described many good species. He had all the qualifications insisted on by Mr. Hume as alone entitling a man to deference; for he was not only a field naturalist, but something far higher, an Indian field naturalist. Colonel Tytler described the Andaman Parrakeet, his *P. affinis,* thus—"generally like *P. erythrogenys,* the red cheek-mark and coloration of which it possesses, but differs constantly in having a black bill" (Ibis, 1867, p. 320). Beavan adds, on Colonel Tytler's authority, "*P. erythrogenys* he" (Colonel Tytler) "has seen in all stages, and it always has a red bill" (*l. c.*). Nor is this all; Dr. Finsch, as above stated, founded his opinion on Herr v. Pelzeln's description of a "sexed specimen" of a female in the Vienna Museum, obtained in the Nicobars "in the flesh" by the 'Novara' expedition. Three "sexed" as males, five "sexed" as females, and one specimen, with sex undetermined, came to the Vienna Museum. By what, then, was Dr. Finsch to be guided? Apart from Colonel Tytler's opinion, the conclusions of Mr. Blyth drawn from unmarked skins? or the statement of Herr v. Pelzeln, who had had the advantage of examining eight marked skins? Is it not allowable to assume that the zoologists attached to any European or American scientific expedition are capable of correctly determining by dissection the sexes of the specimens they obtain? But Mr. Hume readily disposes of this, I venture to submit, equitable argument in these words, "on the strength 'of an old female in the Vienna Museum' (palpably, to us who know the species, an old *male*)" etc. (*t. c.* p. 24). Unhappily Dr. Finsch, like most people, at least in Europe, not being gifted with a prophetic spirit, was unable to foretell in 1868 what "us who know the species" might know in 1874.

The same remarks will apply in the main to Mr. Hume's criticisms of the account given by Dr. Finsch of *Palæornis caniceps*, Blyth, the last of the nine good species of the genus within Mr. Hume's acquaintance. This handsome Parrakeet was likewise described from a single skin (much mutilated) with a red maxilla, brought to Calcutta by Captain Lewis from the Nicobars. Mr. Blyth in this instance also never saw the bird "in the flesh," much less dissected it. Indeed the type specimen was so much mutilated that Blyth introduces his description with these words, "This is a very strongly marked species; but I can now merely indicate rather than describe it," etc. (J. A. S. B. 1846, p. 23, note). As in the case of *P. erythrogenys,* Blyth adopted the foregone conclusion, a mere theory unsupported by a single then existing established fact, that while the adult male had a red maxilla that of the female would be black. Shortly afterwards Mr. Blyth (*t. c.* p. 51, note) described, as belonging to the female of *P. caniceps,* a single skin from Province Wellesley, with a black maxilla, in Dr. Cantor's possession. These were the only examples of the species Blyth had seen previous to 1868. One, the type, remained in the Calcutta Museum; the other was given by Dr. Cantor to the E. I. C. Museum, and subsequently passed to the British Museum, where Dr. Finsch examined it. Besides these at least two examples were obtained in the Nicobars by the 'Novara' expedition, one of which, with a red maxilla, was proved by dissection to be a female (Reise Novara, Zool. i. p. 98). Herr v. Pelzeln (*l. c.*) distinctly states this, and adds, which is significant, for there was no controversy at the time, "therefore the colouring of the bill is the same in old individuals of both sexes." Dr. Cantor's single specimen and the specimens obtained by the 'Novara' were the only known examples existing in Europe when Dr. Finsch wrote; and all that was known about the species was restricted to the sources I have indicated. The question therefore again arises, By what was Dr. Finsch to be guided? The affirmative evidence of the 'Novara' zoologists, derived from actual examination of the *corpus*? or Mr. Blyth's opinion formed from a couple of dried skins? Regardless of possible dangers they had gone ashore, seen the bird alive, breathed with it the same air, shot and dissected it! Blyth only knew it, not even from "half a dozen wrongly sexed specimens in a museum," but from one, a much mutilated skin in a museum and a second good skin in private hands, but both with sexes undetermined by dissection. The inconvenient fact stated by Herr v. Pelzeln of the Nicobar female having a red maxilla is thus disposed of by Dr. Finsch's friendly censor, now growing "weary of exposing these" (Dr. Finsch's) "perpetual and perverse blunders" (*t. c.* p. 25). This specimen, "allow me to inform our author, *was* unquestionably a male, and had been, dissection or no dissection, *wrongly* sexed! We shot and sexed 25 adults of this species . . . . and we *know* beyond the possibility of a doubt, that Dr. Cantor and Blyth were perfectly correct," etc. etc. (*l. c.*). It is true that in a note quoted by Mr. Moore (P. Z. S. 1859, p. 454) Dr. Cantor states that the female has a black bill, and it was Mr. Blyth's foregone conclusion; for he says "the bill wholly black, as I suggested it would be in this sex" (*op. cit.* 1846, p. 51, note). But Dr. Cantor's opinion on an ornithological question could not be accepted as conclusive. An intimate friend of my own (many a friendly Manilla have we smoked together in Fort William), Dr. Cantor was no ornithologist. An excellent ichthyologist and herpetologist, he knew little, and professed to know nothing, about birds. What Mr. Hume was going to "*know* beyond the possibility of a doubt" in 1874 we again humbly submit, at the risk of being tedious, could not have been known to Dr. Finsch full five years before.

I have now shown that the major part of Mr. Hume's criticisms of Dr. Finsch's treatment of these eleven species of the genus *Palæornis* are in a less or greater degree mainly founded on perversions, misstatements, or misrepresentations of the established facts existing when Dr. Finsch was writing 'Die Papageien,' or else on trivial inaccuracies of expression. Also that in no single instance do Dr. Finsch's references to Jerdon, Blyth, or other Indian naturalists, when fairly interpreted, exhibit even a breath of discourtesy or absence of deference, consistent with freedom of judgment, to any opinion expressed, or facts narrated, by them. And although Dr. Finsch may, by the light of recent investigations, be shown to have arrived at some erroneous conclusions, they were mostly logical inferences to draw from the conflicting evidence on record at the time he wrote. Towards the close of his article (*t. c.* p. 28) Mr. Hume has this passage, "I should ill fulfil my duty as editor of the sole Indian ornithological journal, if I did not rebuke, *sans façons,* his slighting treatment of the men to whom every Indian ornithologist owes so much." As an old Indian field ornithologist, as one of Dr. Jerdon's oldest friends, one in whom his memory lingers the most cherished of reminiscences, I protest against Mr. Hume's arrogating to himself the right to speak in the name of Indian ornithologists without better claim than the irresponsible editorship of a recent Indian ornithological periodical, or to exalt himself to the post of protector of Jerdon's, Blyth's, or any other Indian naturalist's reputation. The scientific works and deeds of those men are the common property of the scientific world, and not of a narrow Calcutta clique; and their memories are far safer from reproach under the guardianship of that great and increasing body of gifted, highly trained, and generous men, than if left to the patronizing care of a carping, indiscriminating, illiterate, and noxious advocacy. Mr. Hume is at liberty to "rebuke" whomsoever he pleases. His blame or his praise, at least his blame, will prove harmless. But Mr. Hume cannot evade the responsibilities of a reviewer. He cannot plead ignorance; for as a reviewer he is bound to bring to his task a reasonable amount of knowledge. Mr. Hume has most mercilessly attacked the scientific reputation of Dr. Finsch. I care not for the faint praise accorded to his minor merits. A reputation built up by many years of devoted and honourable labour in the cause of zoological science. A reputation as dear to him as our own is to any one of us, perhaps more so, perhaps his all. The coarse jokes or vulgar personalities, standing alone, might have passed unnoticed; for a coarse and vulgar style is some men's misfortune, and though exciting in supersensitive temperaments sensations of nausea, is submitted to by the philosophic mind with a shrug of the shoulder or a smile of resignation. But the unscrupulous reviewer of the hard conscientious work of a brother naturalist risks incurring that deserved odium which, by the common voice, attaches to the judgments of an unjust judge.

XXXIII.—*Letters, Announcements, &c.*

The following letters, addressed "To the Editor of 'The Ibis,'" have been received:—

Sir,—May I be allowed a few remarks on subjects mentioned in the April number of 'The Ibis'?

First with regard to Mr. Brooks's letter (pp. 183–185). Mr. Dresser has shown me that Mr. Brooks is quite correct in saying that the eggs of *Hypolais pallida* (H. & E.) (*Salicaria elæica,* Lindermayer) differ from those of the bird commonly known as *Sylvia rama,* Sykes. In my notes on Persian birds, I hope to enter more fully into the relations of these species; but I may remark that whilst the bird of Southern Europe, North-eastern Africa, and Western Asia is always distinguishable at a glance by its broad bill and larger size from the Indian form, a large series of skins from Persia shows every intermediate gradation. Mr. Brooks is also probably right, and I was wrong, about the distinction of the small Indian bird called *Jerdonia agricolensis* by Mr. Hume; for this species appears to have a different geographical distribution from its ally outside of India. In Persia I only obtained *Hypolais caligata* v. *rama,* whilst in the Ural Herr Meves found only *H. agricolensis.* As to which of these forms is the true *Sylvia rama* of Sykes we must suspend our judgment until the type specimen now buried in a warehouse is again accessible.

At the same time I cannot agree with Mr. Brooks that allied species do not interbreed in the wild state. I may recall a few instances to his recollection; I can assure him they are facts and not speculations. First we have the occurrence of intermediate forms between *Hypolais pallida* and *H. caligata* in Persia. Precisely the same passage takes place betweeen the eastern and western forms of the Orphean Warbler, *Sylvia orphea* and *S. jerdoni,* which are quite as distinct as the two species of *Hypolais*; indeed Tristram (Ibis, 1867, p. 86) actually records his shooting a male of one form and a female of the other from the same nest. Another instance is in the two forms of Indian *Thamnobiæ*—*T. fulicata,* which is found throughout Southern India, and has constantly a black back; and *T. cambayensis*, just as common in Northern India, and having always a brown back. But near Ellose, where the two races meet, I could only find intermediate forms; and Hume has noticed ('Stray Feathers,' i. p. 182) that precisely similar birds are found in Sind, Gujèrat, and Rajpátana. Other well-known cases are those of the Indian and Burmese Rollers, and the black-and-white-crested Kalij Pheasants; and I could name some other instances.

Are we to give up the British-Association rules of zoological nomenclature as hopeless? I am quite willing to admit that their success amongst zoologists in general, at home and abroad, has not been remarkable. Still they are the best we have: if they are objectionable in any way, let them be reformed, but let ornithologists at least abide by them till we have something better in their place. In the last number of 'The Ibis,' p. 173, Dr. Sclater takes Mr. Dresser to task for "falling a victim to the prevailing epidemic for discovering antiquated names and giving them precedence over those generally in use," because Mr. Dresser, in accordance with the British-Association rules, uses the names given by Linnæus, Pallas, Güldenstadt, and Ehrenberg for various species of *Saxicolæ*, in place of the later names applied by Vieillot, Temminck, and others. I dare say the rules might be altered with advantage; for instance, I think it would be very desirable to draw up a list of the works which should be recognized amongst those published prior to some given date, say 1800, and to agree to ignore all others. Thus we should get rid of pamphlets like that of Boddaert. The difficulty of course is to induce individuals to agree to any rules.

This, however, is by the way. I only wish to point out how discouraging it is, to those who wish to render zoological nomenclature rather less chaotic than it is at present (ornithologists have but a faint idea of the confusion which exists in some departments, *e.g.* malacology), to find so eminent a naturalist as Dr. Sclater, one who has done good work himself in the cause, turning against those who are endeavouring to uphold law and order. What has possessed our worthy

Acting Editor? Is he carried away by the "conservative reaction" of which he so highly approves?

W. T. Blanford.

June 30th, 1874.

[With regard to Mr. Blanford's question, in the second part of this letter, relating to the British-Association Rules we may answer unhesitatingly, of course they are not to be abandoned. The real question turns upon the legality and, we may add, the propriety of the changes proposed to be made. It must be admitted that very great uncertainty hangs over many of the names in the works of the older authors, arising chiefly from insufficiency of definition, a great many names being based upon old drawings and brief descriptions in still older works to an extent which would not be tolerated at the present time. What we wish to maintain is that it is not conducive to the advancement of science that imperfect descriptions, about which grave elements of doubt often hang, should be made use of to supersede titles in current use. In other words, it is, in our opinion, wrong to supplant names which can be clearly attached to the objects to which they belong, by terms concerning the application of which there is any dispute. If, however, the case can be made out with perfect satisfaction, the change must be made. Moreover, if change of a generally used name can be *avoided* by placing a particular construction on an old author's writings, we think that such a construction ought to be applied.

But to proceed to the subject of Mr. Sclater's remarks. The use of the genus *Platea* of Brisson in place of *Platalea* of Linnæus is clearly in violation of Rule 2 and its explanation, it being stated that such of Brisson's genera that are *additional* to those of the twelfth edition of the 'Systema Naturæ' are to be used.

As regards the change made in the application of Linnæus's name *Motacilla stapazina*, we have to suggest that it was unnecessary. Mr. Dresser's view is, no doubt, admissible; but this difficult case may also be interpreted as follows:—Linnæus clearly considered that both the figures on Edwards's

Plate 31 applied to one species, adopting Edwards's view that they were male and female of the same species. The characters given by Linnæus no doubt apply strictly to the left-hand figure; but we may also consider them to represent characters common to both, reference to the black throat being omitted in the one case just as reference to the white throat is in the other. In fact, Linnæus's *M. stapazina* may be looked on as a composite species; and it was competent for the next author to restrict the term and say what bird *M. stapazina* meant. This Vieillot did by calling Edwards's left-hand figure *albicollis*, and referring the right-hand one to *stapazina* of Linnæus.

Had Mr. Dresser adopted this view of the case he would not have been under the necessity of changing the application of a name by which a well-known bird has been recognized for upwards of 55 years, and thereby rendering it impossible for future writers to indicate certainly what species they intend by the name *Saxicola stapazina*.—O. S.]

Vienna, 21. Opernring,
May 30th, 1874.

Sir,—In 'The Ibis' for April 1874, Dr. Sclater gives a notice about "the new Paradise-birds and their discoverers," and says that I "*ought* to have cancelled my redescription of *Epimachus wilhelminæ* in the 'Journal für Ornithologie,' and that its appearance, without reference to D'Albertis's discovery, requires explanation, failing which it can only be regarded as an attempt to obtain an unfair priority."

These remarks, involve a heavy accusation, which honour compels me to answer; so I trust you will pardon my laying before you and your readers the following statement:—

1. When returning from my New Guinea trip I published at Batavia, in Java, in the 'Tijdschr. voor Ned. Ind.,' a short description of my *Epimachus wilhelminæ*.

2. On my arrival in Europe I heard of a new Bird of Paradise, and sent immediately a copy of the description of my new bird to the editor of the 'Journal für Ornithologie,' at

the same time writing to Dr. Sclater for information concerning his new bird.

3. Having received a short time afterwards, through Dr. Sclater's kindness, a copy of his article in 'Nature,' I learnt for the first time that his bird was also from the Arfak mountains in New Guinea, having been discovered by Mr. d'Albertis, and was immediately struck by the many similar points of the two descriptions in question. Nevertheless I remained in some doubt about their identity; and as many instances occur of two closely allied but different species living together in the same locality, I resolved to wait till my collections, which I expected every day, were in my hands, so as to be enabled to make rigorous comparison. I therefore had no reason whatever "to cancel my redescription" (as Dr. Sclater expresses himself), besides it being only a copy of another notice published some months before.

4. When part of my birds at last arrived, *later than I expected,* and I unpacked some of them in Berlin (January 1874), I compared my *Epimachus wilhelminæ* with the *Drepanornis albertisi,* Scl., and became quite convinced that they were identical. I therefore immediately (Jan. 15th) sent a note to the editor of the 'Journal für Ornithologie,' in which I stated this fact and withdrew my name, at the same time transferring the specific name *wilhelminæ* to a new little *Trichoglossus*: see 'Journal für Ornithologie,' 1874, Heft i. and 'Zoologischer Garten,' 1874 (a letter to the editor dated Feb. 7th, Vienna).

As these facts, simple and convincing as they are, speak for themselves without further comment, and as there now remains no reason whatever to impute any "unfair" acts or intentions on my part, I know Dr. Sclater himself will be "fair" enough to acknowledge his satisfaction with my "explanation," which he provoked, and to declare that there was no question of an "attempt to obtain an unfair priority."

Yours truly,

ADOLF BERNHARD MEYER.

THE IBIS.

THIRD SERIES.

No. XVI.—OCTOBER 1874.

XXXIV.—*A Visit to the principal Museums of the United States, with Notes on some of the Birds contained therein.* By Osbert Salvin, M.A., F.R.S., &c.

(Plates XI., XII.)

In the early part of the present year I started from Guatemala with the intention of returning to England *viâ* California and New York. My intention, so far as California was concerned, was frustrated by the frequent and chronic changes made in the times of calling of the steamers of the Pacific Mail Company at the ports of Central America. I had therefore to go to Panama, and thence by steamer from Colon to New York, and reached the latter city towards the end of April.

I spent less than five weeks visiting the chief towns in the eastern States, a time much too short to do more than examine hurriedly the contents of the chief museums, both public and private. Of course the Museum of the Smithsonian Institution in Washington occupied the largest share of my attention, though I employed much time in examining Mr. Lawrence's extensive and interesting collection. I also paid several visits to the American Museum of Natural History in New York; and I spent an afternoon at Vassar College, a day at Philadelphia, half a day each with Dr. S. Cabot in Boston and Dr. T. K. Merritt in Flushing, several days in the Museum of the Boston Society of Natural History, and a morning at the Museum of Comparative Zoology at Harvard College. Everywhere I was treated with the utmost kindness and courtesy, and the freest access was given me to all the specimens I wished to examine.

The Collection of the Smithsonian Institution.

The extent of the ornithological collection (unique of its kind) in this museum is well known. At present the arrangement is in a transition state, and the specimens are scattered and cramped for room. When ultimately put in order, with space enough for its display, this collection will stand quite alone as illustrating the ornis of the North American continent. Central America is also largely represented; and the museum contains many valuable collections from South America. In addition to these the mounted series includes the birds collected during Capt. Wilkes's and Capt. Gilliss's Exploring Expeditions, the types of the species described by Peale and Cassin.

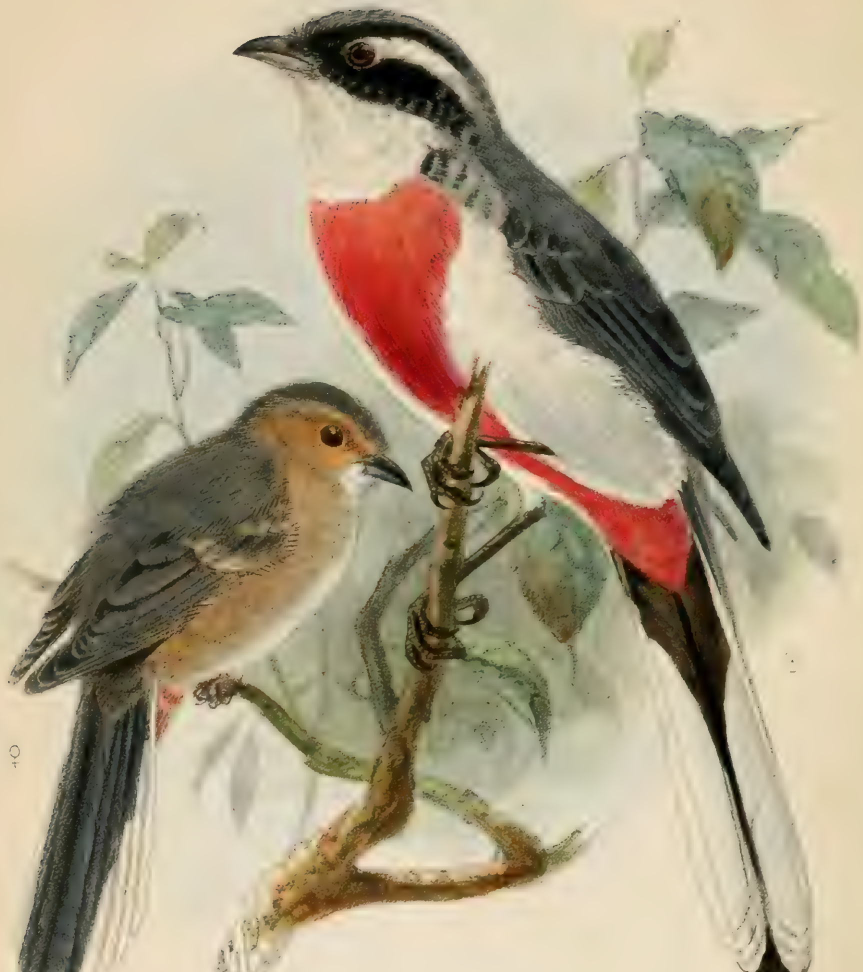
My interest, however, was concentrated upon the Central and South American skins, and in an examination of the types of the species described by Prof. Baird and Mr. Lawrence during the last ten or twelve years. In my search I had the advantage of Prof. Baird's and Mr. Ridgway's most cordial assistance. Dr. Elliott Coues, too, helped me much, especially with reference to many North American species, little known or unknown to me.

The following notes only include a portion of those I made, but relate to species about which I can write with confidence:—

DENDRŒCA CAPITALIS, Lawr. Proc. Ac. Phil. 1868, p. 359.

Barbadoes. This species is almost as widely separated from the closely allied forms of *D. petechia* as is the continental *D. vieilloti*. The rufous of the crown is very distinctly

CENTRAL PARK,
NEW YORK.
NATURAL HISTORY.



Coll. Salv.
J. G. Keulemans lith.

M & N Hanhart imp.

GRANATELLUS FRANCESCAE.

defined, and deep, almost dark chestnut, in tint. I examined the type, and was fortunate enough to obtain a duplicate for our collection. *D. barbadensis,* Sundev. Œfvers. Vetensk. Ak. Förh. 1869, p. 608, doubtless refers to the same bird. See also Baird, Rev. Am. Birds, i. p. 202, and Sclater, P. Z. S. 1874, p. 174, where the species is referred to *D. petechia.*

GEOTHLYPIS ——?, Baird, Rev. Am. Birds, i. p. 227.

I took the opportunity of carefully examining with Mr. Ridgway the specimen named by me *G. macgillivrayi,* and referred by Prof. Baird (*l. c.*) to a doubtful species of the same genus. We agreed that, after all, my determination should be adhered to.

GRANATELLUS FRANCESCÆ, Baird, Rev. Am. B. p. 232.

Tres Marias Islands. This is a beautiful species of this group, differing chiefly from *G. venustus,* Du Bus (of which there is also a specimen in the same collection from the mainland of Mexico), in the absence of the black pectoral band, so conspicuous in the latter bird. Mrs. Salvin took sketches of the types of *G. francescæ,* which Mr. Keulemans has here reproduced on stone (Plate XI.).

HIRUNDO CYANEOVIRIDIS, Bryant, Pr. Bost. Soc. N. H. vii. p. 111 (1859); Baird, Rev. Am. B. p. 303.

The Smithsonian specimen is the first I have seen of this beautiful and distinct species, from the island of Nassau, Bahamas. It has its nearest ally in *H. euchrysea,* Gosse, the differences being fully described by Baird, *l. c.*

STELGIDOPTERYX FULVIGULA, Baird.

On examining the Costa-Rican specimens of this and allied species in the Smithsonian collection, I find my views (Ibis, 1870, p. 108) confirmed. *S. fulvigula* therefore equals *S. uropygialis,* juv. The other Central-American species, the so-called *S. fulvipennis,* also occurs in Costa Rica. This bird is hardly separable from *S. serripennis.*

BUTHRAUPIS EDWARDSI, Elliot, Nouv. Arch. du Mus. i. p. 77, t. iv.

I saw two specimens of this distinct species whilst in

America—one in the collection of the Smithsonian Institution, and one in that of Vassar College, Poughkeepsie. The former is labelled as having been obtained at Esmeraldas, Ecuador; the latter was collected by Professor Orton at Chillo, in the Valley of Quito, on the western slope of the volcano of Antisana, at an elevation of about 10,000 feet above the sea.

CHLOROSPINGUS AXILLARIS, Lawr. Ann. Lyc. N. Y. x. p. 395 (1874).

The type of this species is quite a young bird, and is, I have no doubt, a young male of *Tachyphonus nitidissimus*, Salv., a few black feathers of the adult dress showing amongst the general green plumage of the young bird.

CHLOROSPINGUS BRUNNEUS, Lawr. Ann. Lyc. N. Y. x. p. 395 (1874).

Through Mr. Lawrence's kindness I have carefully examined the type of this species, and find that it agrees perfectly with a specimen in Mr. Lawrence's collection ascribed to the female of *Tachyphonus delattrii*. This latter determination is, I have no doubt, correct, and the bird figured in 'Exotic Ornithology' (t. 34) as the female of *T. delattrii* belongs to some other species. This skin was obtained by Fraser, and is that of a young bird, the proper determination of which I am not at present able to decide.

BUARREMON ASSIMILIS (Boiss.) ?

I carefully examined the specimen attributed with doubt to this species by Mr. Lawrence in his list of Costa-Rica birds (Ann. Lyc. N. Y. ix. p. 101), and found the differences between it and a New-Granadan skin to be extremely slight. The feathers round the bill are rubbed and wanting, giving the bill the appearance of being larger than that of the southern *B. assimilis*, it being in reality of hardly larger dimensions. The difference in the colour of the cheeks is due to the form of the skin, the feathers being more compactly set. I think the query may be removed and the species called *B. assimilis*.

ARREMON RUFODORSALIS, Cassin, Pr. Ac. Phil. 1865, p. 170.

It has surprised me that no other specimens of this bird have occurred in the large collections that have of late years been made in Costa Rica. In examining the type I noticed that the colour of the back was irregularly distributed, and appeared due to an abnormal amount of colour in this individual; and to the same cause I attribute the deep colour of the campterium. Thus viewed, the bird becomes merely an individual variety of *A. aurantiirostris,* a species excessively common in the same districts where the supposed *A. rufodorsalis* is found.

Cyanospiza rositæ, Lawr. Ann. Lyc. N. Y. x. p. 397 (1874).

The description given by Mr. Lawrence was communicated to him by M. Sumichrast. Soon after it was in type the specimens reached Washington, where I had the pleasure of examining them. The species is a most beautiful one, and quite distinct from any previously described, being nearest, however, to *C. ciris.* M. Sumichrast also sent the female, which, no doubt, Mr. Lawrence will describe in a forthcoming paper on Western Mexican birds.

Elainea semiflava, Lawr. Ann. Lyc. N. Y. viii. p. 177.

Described from a specimen collected by Mr. Hicks at Chiriqui, proves, on an examination of the type, to be *Capsiempis flaveola* (Licht.). We had already received a specimen from the same locality, and included it under the latter name in our 'Nomenclator' (p. 47). The species appears to have a very wide range, extending as it does from South-eastern Brazil, through Guiana, to Veragua; but specimens from these distant points present no appreciable differences.

Empidonax axillaris, Ridgway, N. Am. B. ii. p. 363.

Mr. Ridgway suggests that this bird may be *E. albigularis,* Scl. & Salv. (Ibis, 1859, p. 122); and I have no doubt that it really belongs there. The Smithsonian type is in a wretched state, the plumage being worn and abraded. *E. albigularis* is a fairly defined species for this intricate genus.

As regards *Empidonax brunnescens,* Ridgway, N. Am. B. ii. p. 363, from Paraná, Mr. Ridgway adds, in the appendix to the third volume, p. 519, that there is a second specimen in the Boston Museum, bearing the name *E. olivus,* but to which he could find no reference. The abbreviation here stands doubtless for the genus *Empidochanes,* and not for *Empidonax. olivus* is Boddaert's name for Buffon's *Gobe-mouche olive de Cayenne* (Pl. Enl. 574. fig. 2). Mr. Ridgway's bird should be compared with *E. fuscatus* (Max.), from Brazil; or with Dr. Cabanis's *E. argentinus,* Journ. f. Orn. 1868, p. 196.

EMPIDONAX FULVIPECTUS, Lawr.

This appears to be a distinct species, having a general resemblance to *E. bairdi,* but with the outer web of the outer rectrix whitish as in *E. obscurus.* The type is in Mr. Lawrence's collection. See 'North-American Birds,' ii. p. 364.

CONTOPUS LUGUBRIS, Lawr. Ann. Lyc. N. Y. viii. p. 134.

This species is a southern form of *C. pertinax,* and differs from it chiefly in being of smaller size, slightly darker in general colour, and in having the head of a darker hue. In 'North-American Birds' *C. lugubris* is treated as a "variety" of *C. pertinax.* This view may be the correct one; but it must be remembered that these birds affect semialpine regions, and therefore, the range of the stock being broken, the bird is in all probability unrepresented in the low-lying valley of the San Juan river and the lakes of Nicaragua.

THAMNOPHILUS HOLLANDI, Lawr. Ann. Lyc. N. Y. viii. p. 180.

The types of this species which I examined in the collection of the Smithsonian Institution appeared to me to belong to the common *T. melanocrissus,* their bills being only very slightly larger, not nearly enough to justify the supposition that *T. hollandi* is a distinct species.

FORMICIVORA SCHISTICOLOR, Lawr. Ann. Lyc. N. Y. viii. p. 172 (1865).

This is identical with the bird I have called *Myrmotherula ménétriési,* in my lists of Veragua birds (P. Z. S. 1867, p. 144, and 1870, p. 195). The bird has a very wide range; and I can see no satisfactory differences between Central and South American examples.

The following five species of this genus are all that have as yet been found in Central America, north of the Isthmus of Darien :—

1. MYRMOTHERULA PYGMÆA (Gm.), Cass. Proc. Ac. Phil. 1860, p. 190; Lawr. Ann. Lyc. N. Y. vii. p. 325.

Rio Truando (*Wood*) and Isthmus of Panama (*McLeannan*).

2. MYRMOTHERULA SURINAMENSIS (Gm.), Cass. Pr. Ac. Phil. 1860, p. 190; Lawr. Ann. Lyc. N. Y. vii. p. 293; Scl. & Salv. P. Z. S. 1864, p. 356.

Turbo, Darien (*Wood*); Panama (*McLeannan*).

3. MYRMOTHERULA FULVIVENTRIS, Lawr. Ann. Lyc. N. Y. vii. p. 468; Scl. & Salv. P. Z. S. 1864, p. 356; Lawr. *l. c.* ix. p. 108.

Myrmotherula ornata, Scl.? Cass. Pr. Ac. Phil. 1860, p. 191, partim (nec Sclater).

Truando (*Wood*); Panama (*McLeannan*); Costa Rica (*Carmiol*).

I examined four specimens from the Truando in the Smithsonian Institution. They are all named *gularis,* but are, no doubt, the same specimens Cassin determined finally to call *M. ornata,* Scl.? in his list (*loc. supra cit.*). One of these belongs to *M. fulviventris*; the other three are females or young of *M. melæna.*

4. MYRMOTHERULA MELÆNA, Scl., Cass. Pr. Ac. Phil. 1860, p. 191; Scl. & Salv. P. Z. S. 1864, p. 356; Lawr. Ann. Lyc. N. Y. ix. p. 107.

Formicivora melæna, Lawr. Ann. Lyc. N. Y. viii. p. 6.

Myrmotherula ornata, Scl.? Cass. *l. c.* p. 191 (partim).

Myrmotherula albigula, Lawr. Ann. Lyc. N. H. viii. p. 131 (1865), et ix. p. 108.

Truando (*Wood*); Panama (*McLeannan*); Costa Rica (*Carmiol*).

5. MYRMOTHERULA MÉNÉTRIÉSI, D'Orb., Salv. P. Z. S. 1870, p. 195.

Formicivora schisticolor, Lawr. *ut suprá.*

Myrmotherula modesta, Lawr. Ann. Lyc. N. Y. ix. p. 108 (1868).

Veragua and Chiriqui (*Arcé*); Costa Rica (*Carmiol*); Vera Paz, Guatemala (*Salvin*).

ZENAIDURA GRAYSONI, Lawr. Ann. Lyc. N. Y. x. p. 17 (1871), is a distinct species, with strongly defined scapular marks almost as in *Zenaida galapagoensis*. It is, however, much larger than that species.

ZENAIDURA YUCATANENSIS, Lawr. Ann. Lyc. N. Y. ix. p. 207 (1869).

Appears to be also a good species, having the colours of the Antillean *Zenaida amabilis*, but the tail with fourteen rectrices as in *Zenaidura carolinensis*.

LEPTOPTILA RIOTTII, Lawr. Ann. Lyc. N. Y. ix. p. 137.

Notwithstanding its having a slightly larger beak, the type specimen of this species is, I am convinced, to be referred to *L. verreauxi*, an abundant species in the northern parts of South America, and in Central America as far north as Costa Rica.

LEPTOPTILA BONAPARTII, Lawr. Ann. Lyc. N. Y. x. p. 15.

I could not see that this bird really differs from our *L. plumbeiceps*. Mr. Lawrence's skin of the latter bird is somewhat darkened with grease, and has thus misled him as to the true coloration of the species. The name, *L. albifrons*, attached to Mr. Lawrence's type of *L. bonapartii* is no doubt wrong; but Prince Bonaparte could never have seen the skin, as the date on the label, 1859, shows that it was obtained at least two years after his death.

TINAMUS FRANTZII, Lawr. Ann. Lyc. N. Y. ix. p. 140 (1868).

I have lately acquired a skin of this bird from Costa Rica, and have also seen the type of the description. The species is undoubtedly the same as *Tinamus bonapartii*, G. R. Gray, *Nothocercus bonapartii* of our 'Nomenclator,' p. 152.

Whilst in the United States I had the pleasure of seeing, for the first time, the new work on the birds of North America, by Prof. Baird, Dr. Brewer, and Mr. Ridgway; and during my stay in Washington I took the opportunity of looking into several points discussed in its pages upon which I sought more light. The following are a few of the notes I made:—

The identification of Mr. Gould's *Troglodytes leucogastra* by Prof. Baird in his 'Review of American Birds,' and adopted in the present work (i. p. 141), has been recently reconsidered by us (Nomencl. p. 7, et App. p. 155), and a new genus proposed for the species, which is also identified with Mr. Sclater's *Cyphorhinus pusillus*. The bird is quite remotely allied to the *T. bewickii* group, and comes nearer *Troglodytes*.

In a note appended to the synopsis of the genus *Contopus* (ii. p. 352), Mr. Ridgway expresses his belief that the species described by Mr. Sclater and myself as *C. ochraceus* (P. Z. S. 1869, p. 419) from Costa Rica "seems to be scarcely different from *C. lugubris*," and that "it is probably the same." I can only trace a reason for this statement in the fact that, in a note appended to our description, we mentioned that we did not know the bird described by Mr. Lawrence as *C. lugubris*, but that, judging from the description, it could hardly be intended for the bird we were characterizing. I have now seen and possess *C. lugubris*, and can state that Mr. Ridgway's suggestion is altogether wide of the mark, and that our name and description were quite sufficient to have saved him from pronouncing so hasty a judgment upon a bird he had never seen. In coloration *C. ochraceus* is not unlike *Empidonax flavescens* of Lawrence. I have not yet met with a second example.

Pyrocephalus obscurus (ii. p. 387) (by a misprint, *E. obscurus*) is only a melanism of the common species, *P. rubineus*, or one of its races. These dark varieties occur in various localities. Besides Peruvian examples I have seen others, including one from Mexico. (*Cf.* Sclater, P. Z. S. 1864, p. 176; also Scl. & Salv. P. Z. S. 1868, p. 175.)

In treating of the genus *Chætura* (ii. p. 431), *C. poliura*, Temminck, is placed as a "variety" of *C. pelagica*. I have sought in vain for any grounds to warrant such an arrangement. In this and in the case of *Panyptila cayennensis* (p. 424), have not our authors, in their anxiety to introduce their novel nomenclature, far outstepped the limits of variation indicated by the specimens at their command?

In their note on the so-called *Lampornis mango* (ii. p. 440), Mr. Elliot's paper "on the Humming-Birds of the West Indies" (Ibis, 1872, p. 350) is overlooked. It is there shown that the Jamaican bird is the true *Lampornis mango* of Linnæus, and that the bird commonly and here so called must bear the name *L. violicauda* (Bodd.).

Buteo harlani (iii. p. 292). At Mr. Ridgway's request I have, since my return to England, examined the specimen in the British Museum, said to be Audubon's type of this species, and find that it agrees closely with the specimen he showed me in Washington. Now that it is shown that neither the dark melanitic forms of *Buteo borealis* nor those of *Buteo swainsoni* are referable to *Buteo harlani*, I think the species must be acknowledged distinct—a conclusion arrived at separately by both Mr. Ridgway (*l. c.*) and Mr. Sharpe (Cat. Birds, i. p. 191). Mr. Sharpe includes Guatemala in the range of this species; but this requires confirmation, as the bird so called (Ibis, 1859, p. 217) in our Guatemalan lists is *B. borealis*. The young bird Mr. Sharpe describes from Mexico belongs to *Tachytriorchis albicaudatus*, as he and I have since determined.

In a paragraph attached to *Scops asio*, var. *maccalli* (iii. p. 53), I was somewhat surprised to see our assignment of the name *S. trichopsis*, Wagler, totally dissented from. On examining the specimens so called in the Smithsonian Institution, I found that they really belong to the bird to which we apply the name *Scops brasilianus* (Gm.), and have little to do with Wagler's bird. The toes of *S. brasilianus* are nude. Wagler adds to his description of his *trichopsis* "digiti setis singulis sordide albis tecti," at once showing that the species *must be* considered allied to *S. asio* and *S. macalli*, and that Mr. Ridgway could not have verified the names wrongly attached to the specimens of *S. brasilianus* by studying Wagler's original description. Another race or variety of *S. asio* is described in the 'North-American Birds' as *Scops enano*. It only remains to be seen which of the birds, *S. maccalli* or *S. enano*, has to take Wagler's name *S. trichopsis*. A specimen in the British Museum, from Mexico, which belongs, no doubt, to *S. maccalli*, agrees best with Wagler's description (Isis, 1832, p. 276).

S. enano, therefore, if a valid species, which I somewhat doubt, must stand alone, and *S. maccalli* become a synonym of *S. trichopsis.*

Collection of Mr. George N. Lawrence, New York.

Mr. Lawrence, in showing me his extensive collection of Central and South American birds, most kindly allowed me carefully to examine the types of the species described by him in his various papers. With reference to some of these species I made the following notes and identifications.

Buarremon ocai, Lawr. Ann. Lyc. N. Y. viii. p. 126 (1865).

This is undoubtedly *Pipilo torquatus,* Du Bus (Bull. Ac. Brux. xiv. pt. 2. p. 105, et Esq. Ornith. t. 36, 1851), *Chamæospiza torquata,* Scl. (P. Z. S. 1858, p. 304). Specimens of *Pyrgisoma leucote* were formerly called *Chamæospiza torquata* by me, and thus named were sent to the Smithsonian Institution. This error was long ago corrected (Ibis, 1866, p. 205), but appears to have misled Mr. Lawrence when redescribing *C. torquata,* my correction having been overlooked.

Serpophaga grisea, Lawr. Ann. Lyc. N. H. x. p. 139.

I have now seen several specimens, including some from Costa Rica, of this *Serpophaga,* and cannot distinguish it from the South-American *S. cinerea.* The crown has a concealed white crest, and the wing-coverts have white tips, in the Central-, just as in the South-American bird.

Elainea macilvaini, Lawr. Ann. Lyc. N. Y. x. p. 10 (1871).

Mr. Lawrence kindly allowed me to take his type of this species to England for comparison. I find we have a specimen exactly agreeing with it from Panama; and this is the bird referred by us (Nomencl. p. 48) to Swainson's *Tyrannula caniceps* (Orn. Dr. t. 49); nor do I see, on again examining the plate, reason for altering this determination. The bird Mr. Sclater formerly called by Swainson's name (Cat. p. 217) we now consider to belong to Von Pelzeln's *E. elegans.*

EMPIDONAX ATRIROSTRIS, Lawr. Proc. Ac. Phil. 1871, p. 234. The type of this species Mr. Lawrence also kindly allowed me to take away with me for comparison. I find it identical with our *Sublegatus glaber* (P. Z. S. 1868, p. 171).

MARGARORNIS GUTTATA, Lawr. Ann. Lyc. N. Y. viii. p. 128, though closely allied to *M. brunnescens*, Scl., appears to be sufficiently distinguishable by having the tail and uropygium rufous instead of dark brown. Gray, in his 'Hand-list' (i. p. 180), gives the names of two other species of this genus as "*gutturalis*, Lafr., Bolivia," and "*certhoides*, Lafr., Argentine Rep." I have searched carefully through Lafresnaye's writings for the descriptions of these birds, but without success; nor can I find any other mention of them beyond what appears in the 'Hand-list.' Another valid species of this genus is *M. stellata*, Scl. & Salv. Nomencl. p. 67, et App. p. 160, a second specimen of which I saw in the collection of the Smithsonian Institution.

THAMNOPHILUS LEUCOPYGUS, Lawr. Ann. Lyc. N. Y. viii. p. 401.

On examining the type of this species in Mr. Lawrence's collection, I felt convinced that an error had been made in assigning the Isthmus of Panama as the origin of the skin. I now find that the bird really belongs to the common African species, *Dryoscopus cubla* (Lath.), Sharpe's Cat. Afr. Birds, p. 47. In some exchanges I made with McLeannan, I sent him a number of African skins; doubtless this one was included by mistake in a collection forwarded to Mr. Lawrence from Panama, and thus misled the latter gentleman as to the origin of the specimen. *Thamnophilus leucopygus* must therefore be removed from the list of American birds altogether, and the name placed as a synonym of *Dryoscopus cubla.*

DYSITHAMNUS RUFIVENTRIS, Lawr. Ann. Lyc. N. Y. viii. p. 131 (1865), is described from a young male of *Cercomacra tyrannina*, Scl., the underparts having the immature plumage still unmoulted.

MYRMOTHERULA ALBIGULA, Lawr. Ann. Lyc. N. Y. viii. p. 131 (1865), was described from a specimen, which I take to be a female of *M. melæna*, Scl. (*vide suprà*, p. 311).

MYRMELASTES CORVINUS, Lawr. Ibis, 1863, p. 182.

This appears to me to be *Gymnocichla nudiceps.* The sole difference between the supposed species is that one has the head feathered where the other is bare; and it seems to me most probable that the feathers fall from the head of *G. nudiceps* as the males advance towards maturity. We have long had specimens in our collections of *M. corvinus,* which I had always believed to be *G. nudiceps* with the head feathered. I still consider this the correct view.

CHLORONERPES CALLOPTERUS, Lawr. Ann. Lyc. N. Y. vii. p. 476 (1862).

In describing the species of this genus from Veragua which I called *C. simplex* (P. Z. S. 1870, p. 212), I stated the differences that appeared to exist between it and *C. callopterus.* I now find these confirmed, the more so as Mr. Lawrence's type, instead of being a male, is a female, the same sex as the specimen I described. Moreover, in a collection recently received in the Smithsonian Institution, there is a skin of a male of *C. simplex,* collected by M. Zeledon during Prof. Gabb's expedition to Talamanca. I am therefore now able to complete the description of my species, and record with certainty the differences which exist between it and *C. callopterus.*

CHLORONERPES SIMPLEX.

♂ (Smiths. Inst. No. 64865). Oleagineo-virescens: gula, pectore et regione auriculari paulo obscurioribus: fronte, pileo toto, nucha et macula rictali elongata rubris: pectore ochracescente albido guttato; abdomine pallidè ochracescenti-albido, fusco transfasciato: alis intus castaneis, extus dorso concoloribus: primariorum et secundariorum apicibus nigris, remigibus omnibus nigro transfasciatis: cauda fusco-nigra, extus dorso concolori: tectricibus subalaribus castaneis: rostro et pedibus plumbeis: long. tot. 7·0, alæ 4·5, caudæ 2·6, rostri a rictu 1·0, tarsi 0·7.

♀ mare vix minor: capite toto quam dorsum paulo obscuriore, nucha rubra: abdominis plumis (recenter acquisitis) viridescentioribus: long. tot. circ. 6·7, alæ 4·3, caudæ 2·6, rostri a rictu 0·95, tarsi 0·7.

Hab. Chiriqui et Costa Rica in prov. Talamanca.

Obs. *C. calloptero,* Lawr., affinis sed stria flava infra oculos absente, et gula oleaginea nec pallide viridescenti-fulva facile distinguendus.

Syrnium lineatum, Lawr. Ann. Lyc. N. Y. vii. p. 462 (1862).

The species known as *Ciccaba virgata* (Cass.) varies greatly in the markings of its plumage; but the tail, being banded with white, always exhibits a character by which the species may be distinguished from its more southern allies. *Syrnium lineatum* shows perhaps extremes of body-coloration, but is not, I think, to be separated specifically from *C. virgata.*

American Museum of Natural History, Central Park, New York.

Such of the contents of this rapidly growing museum as I wished to examine, were kindly shown me by Mr. Albert J. Bickmore.

At present the, to me, most interesting portion of the birds is the late Prince Maximilian of Neuwied's collection, which was purchased some years ago, and is now exhibited in a temporary building in the Central Park. A new museum is in course of construction, which promises to be capable of holding and worthily exhibiting this and many more interesting collections.

Chamæpetes goudoti (Lesson).

A typical specimen of Tschudi's *Penelope rufiventris* is included in Prince Max.'s series, a species about which many doubts have hung. It belongs most certainly to Lesson's *Ortalida goudoti,* described from specimens obtained by Goudot in the Quindiu Mountains of New Granada, whence we have recently received examples from Mr. T. K. Salmon. The bird also occurs in Ecuador, where Fraser obtained it, and whence we have also an example. Specimens from Bogota are sometimes of a rather lighter, more bronzy hue than typical birds; but this coloration does not appear to be constant, as we possess some which are intermediate in this character. The Peruvian bird agrees with that from the province of Antioquia.

Anas erythrophthalmus, Max. Beitr. iv. p. 929.

The position of this species has long been in doubt. The single skin in the Wied collection appears to be that of a female; and the species is very closely allied to, if not identical with, *Metopiana peposaca.* Unfortunately, I could not find in the collection a specimen of that species with which to compare it. From measurements I took it would appear to be somewhat smaller than *M. peposaca*; and the underparts have a rusty brownish tinge instead of being white. The face, too, is whitish, a character not shown in the other species. Long. tot. 19·5, alæ 8·0, caudæ 2·0, tarsi 1·6, dig. med. 2·3.

Tringa canutus.

In our "Notes on the Range of several American Limicolæ" (P. Z. S. 1873, p. 456), Mr. Sclater and I stated that we had never seen examples of *Tringa canutus* from the eastern coasts of South America. Having now seen the bird called *T. cinerea* by Max. (Beitr. iv. p. 735), I find that it is undoubtedly a young specimen of the Knot (*T. canutus*). It was obtained in Brazil by Prince Maximilian.

Sterna erythrorhyncha, Max. Beitr. iv. p. 857.

This is undoubtedly the same as the bird we referred to *S. maxima,* Bodd. (P. Z. S. 1871, p. 567); and should any one share Dr. Coues's lingering doubts as to our identification, Maximilian's name, proposed in 1832, must take precedence over *S. regia,* of Gambel, published in 1848.

Sterna superciliaris.

S. argentea, Max. Beitr. iv. p. 871.

The Tern, from Brazil, in the Maximilian collection, called *Sterna argentea,* has a black tip to the bill, and therefore differs in this respect from the usual South-American bird, to which we have assigned Vieillot's name *S. superciliaris.* I am now disposed to doubt the possibility of distinguishing the South from the North American and West-Indian species, *S. antillarum*, with absolute certainty. However, the majority of individuals, by far, from the southern continent have a uniformly yellow bill, which is stouter and stronger than that of northern birds.

LARUS POLIOCEPHALUS, Max.

Is the same as Vieillot's *L. cirrhocephalus*, as acknowledged by Max. (Beitr. iv. p. 854), and by the original label on the specimen in the New York Museum.

Museum of the Academy of Natural Sciences of Philadelphia.

Unfortunately I had so little time at my disposal at Philadelphia that I could only give a glance at this grand collection. At present the shelves are densely crowded with specimens, and in somewhat confused arrangement. This defect will doubtless be remedied when the Academy moves into the new building now in course of construction for its reception, where the birds will, it is to be hoped, be exhibited as they deserve. Mr. Ogden kindly showed me through the galleries. The following are a few of the notes I made:—

When examining the specimens of Rallidæ in the Paris Museum, at the time we were working up our monograph of that family (P. Z. S. 1868, p. 442 *et seq.*), Mr. Sclater, Mr. J. Verreaux, and I looked everywhere in vain for the birds named but not described by Prince Bonaparte as *Micopygia verreauxi* and *M. sclateri* in his paper on the Rallidæ (C. R. xliii. p. 599, 1856). These specimens I found in the Museum of the Academy of Natural Sciences of Philadelphia. *M. verreauxi* is labelled "*Ortygometra verreauxi*, Bp.: type, Pérou;" the other, "*Ortygometra sclateri*, Bp.: type, Pérou." In both cases the specific names and the author's are in Bonaparte's handwriting, the rest in that of Jules Verreaux. The former bird has since been named *Porzana castaneiceps*, Scl. & Salv. P. Z. S. 1868, p. 453, Ex. Orn. t. 78; the latter, *P. hauxwelli*, Scl. & Salv. P. Z. S. 1868, p. 453, Ex. Orn. t. 52. Both these latter names will have to stand, Bonaparte's allusion to them as *Micropygia verreauxi* (*major*) and *M. sclateri* (*media*) being utterly insufficient for the recognition of the species, as Schlegel's assignment of them proves (Mus. d. P.-B. *Ralli*, p. 37).

I also saw in the gallery of the Philadelphia Academy an unnamed and unlabelled specimen of *Accipiter pectoralis*, Bp. (*Astur pectoralis*, Sharpe, Cat. Birds, B. M. i. p. 121, 1874). Of this scarce bird, the only specimens known to exist, besides the one now referred to, are one in the Antwerp Museum (Bonaparte's type) and two in the Derby Museum at Liverpool (*Cf.* Sclater, Ibis, 1861, p. 314). Besides these, Natterer obtained three specimens at Ypanema and Borba, in Brazil (Pelz. Orn. Bras. p. 6), one of which passed in 1862 to the Leyden Museum (Schl. Mus. des P.-B. *Astures*, p. 18). Seven specimens in all.

There is a specimen in the same museum of *Accipiter collaris*, Scl., from Bogota, a bird still rarer than the last named. Only three specimens appear to exist in collections—the type in the British Museum, one in the Norwich Museum, and the one now mentioned as being in Philadelphia.

Museum of the Boston Society of Natural History.

Through Dr. T. M. Brewer's kindness I was enabled to examine the fine series of birds in this museum, celebrated as containing the collection formed by the late Baron de La Fresnaye, and including most of the types of the many species described by that author.

Previous to the sale of the Lafresnaye collection a catalogue of the species it contained was prepared by the late M. J. Verreaux. This work was somewhat hurriedly executed; and the names were taken, in most instances, from the specimens without being checked by reference to Lafresnaye's papers. A very considerable number of the names mentioned in this catalogue are only MS. titles, descriptions of which have never been published; but they have been placed on the specimens in the galleries, which have been named from Verreaux's catalogue. It would be of great value to ornithological science if some competent ornithologist would undertake the verification of the names of this collection with the published works of Lafresnaye, so as to get rid of a number of names which are only perplexing to any one studying it.

I spent much time in verifying the names under which I have been accustomed to mention many species of South and Central American birds. The few notes I here subjoin do not represent a tithe of the information, mostly confirmatory of previous views, I obtained.

BUARREMON GUTTURALIS, Lafr. Rev. Zool. 1843, p. 98.

On seeing the type of this species I at once recognized the bird we have been accustomed to call *B. chrysopogon* (Bp.). It is true that a specimen collected at Medellin by Mr. T. K. Salmon is somewhat blacker on the back than our series of Central American specimens; but the difference is very slight, and, in my opinion, not of specific importance. Mr. Sclater, in his monograph of the Tanagers (P. Z. S. 1856, p. 86), keeps the two species apart; so also does Gray (Hand-l. ii. p. 72); but in our 'Nomenclator' (p. 24) only one species is mentioned, under the name *chrysopogon*: *gutturalis* is a much older title; and the species should stand as

BUARREMON GUTTURALIS.
Arremon gutturalis, Lafr. Rev. Zool. 1843, p. 98.
Buarremon gutturalis, Bp. Consp. p. 484.
Zonotrichia? aureigula, Bp. MS.
Chrysopoga typica, Bp. Consp. p. 480.
Buarremon chrysopogon, Scl. P. Z. S. 1856, p. 86.

SYNALLAXIS BRACHYURA, Lafr. Rev. Zool. 1843, p. 290.

There are three specimens thus named in the Lafresnaye collection, all of which are immature birds. So far as I could see, they belong to the species subsequently called *S. pudica* by Sclater (P. Z. S. 1859, p. 191, pl. 10). As the distinctive markings are not matured, and the rectrices imperfectly grown (hence Lafresnaye's name), it would be unsafe to use the name *brachyura* in preference to Sclater's *S. pudica,* at least for the present.

MARGARORNIS SQUAMIGER, D'Orb. et Lafr. Syn. Av. ii. p. 14.

The Bogota bird usually thus called differs from one of the typical specimens of that species from Bolivia. The Bolivian bird is pale yellowish where the other is white, the black edges of the feathers are much narrower, and the upper plumage, especially the head, is brighter rufous; the bill, too, is much smaller. The Bogota bird should bear the name *Margarornis perlata,* Less. Echo du Monde Savant, 1844, p. 275, based on a bird from Columbia.

PICUMNUS GRANADENSIS, Lafr. Rev. Zool. 1847, p. 78.

The specimen thus named is undoubtedly the young of the bird called *P. olivaceus,* Lafr., in the same collection. The latter is not Lafresnaye's type, as the species was described from a specimen in the Massena collection (*Cf.* Rev. Zool. 1845, p. 7), and should therefore exist in the Museum of the Academy of Natural Sciences in Philadelphia. *P. granadensis* was obtained from Cali, in the upper waters of the Cauca; *P. olivaceus* came originally from Bogota.

Museum at Vassar College, Poughkeepsie, N. Y.

On my way to Niagara I stayed some hours at Vassar College, Poughkeepsie, in order to see the collection in charge of Professor Orton, many of the specimens in which were collected by him during his rambles in tropical America, and some of them have, at various times, been described by Mr. Lawrence.

Professor Orton kindly presented me with a specimen of the bird described by Cassin as *Icterus grace-annæ* (Pr. Ac. Phil. 1867, p. 52), collected by himself at Machala, near Guayaquil. The species appears to be a very distinct one, the white mark on the wings recalling *I. pectoralis,* the spots on the breast being absent. The yellow colour, however, is not so deep in tint. The patria of the skins described by Cassin was not satisfactorily determined. This point is cleared up by Professor Orton's skins. The bird would appear to be restricted in its range to Western Ecuador and Western Peru.

I also saw a specimen of *Cyanocorax mystacalis,* collected by Professor Orton at Machala, near Guayaquil, Ecuador.

MYIODYNASTES ATRIFRONS, Scl.

A specimen of this species, collected by Prof. Orton at Tumbez, in Peru, also bears the name *M. bairdi*, Gamb. On looking up these names I find that Mr. Sclater's bird must be referred to *Saurophagus bairdi*, Gambel, Journ. Ac. N. S. Phil. i. p. 40 (1847), the supposed locality ("California") being, of course, erroneous. The species must therefore stand as follows:—

MYIODYNASTES BAIRDI.

Saurophagus bairdi, Gambel, *ut suprà*.

Tyrannus atrifrons, Scl. P. Z. S. 1857, p. 274.

Myiodynastes atrifrons, Scl. P. Z. S. 1859, p. 43; et Cat. Am. B. 223; Scl. & Salv. Nomencl. p. 50 (1873).

Hab. Puna I., Gulf of Guayaquil (*Barclay, in Mus. Brit.*); Guayaquil (*Mus. P. L. S.*); Tumbez, Peru (*Orton*).

PIPREOLA SCLATERI, Cornalia.

A specimen of this rare bird, now in this museum, was obtained by Prof. Orton near Archidona, in Eastern Ecuador, at an elevation of about 1500 feet above the sea-level.

SYNALLAXIS MACULATA, Lawr. Ann. Lyc. N. Y. x. p. 186 (1872).

This bird, the type of which is in the Vassar College collection, has already been determined by Mr. Sclater to be *Synallaxis stictothorax* (*Cf.* P. Z. S. 1874, p. 12, t. ii. f. 1). The type, however, is rather whiter beneath than is shown in the plate.

BRACHYGALBA LUGUBRIS, Sw.

The Jacamar in Vassar-College Museum, thus identified by Mr. Lawrence (Ann. Lyc. N. Y. ix. p. 274), is undoubtedly the bird we described as *B. goeringi* (Scl. & Salv. P. Z. S. 1869, p. 253). It remains to be seen whether Mr. Lawrence was correct in referring it to Swainson's bird. Swainson distinctly says that his bird is three-toed, and he says nothing about the deep rufous patch on the middle of the abdomen. I should be disposed to place less stress upon Swainson's statement that the bird he described had three toes, had we not a genus (*Jacamar-*

alcyon) of this family which certainly has only three. Swainson's bird came from the "Conocou Mountains of Demerara." *B. goeringi* is from Venezuela. On the whole, I think *B. goeringi* had better be allowed to stand as the name of the Venezuelan bird.

LOPHOSTRIX CRISTATA (Daud.).

In Vassar College there is a specimen of this Owl, collected by Professor Orton near Mindo, on the western slope of the volcano of Pichincha, Ecuador, at an elevation of about 6000 or 7000 feet above the level of the sea. So far as I can see, the distinctions by which the Central American race of this genus, *L. stricklandi*, may be recognized from the more southern bird are quite stable.

ACCIPITER NIGROPLUMBEUS, Ann. Lyc. N. Y. ix. p. 270.

I carefully examined the type of this Sparrowhawk in the Vassar-College Museum. The skin appears to belong to a very old male, and differs from all the small South-American Sparrowhawks that I have seen, in the almost entire uniformity of its dark plumbeous colour. On the lower abdomen, however, deep rufous feathers are intermingled, which makes me suspect that in this bird we have a very extreme form of the more northern *A. ventralis*. As we possess a skin (that of a male) from Ecuador which has the underparts deep rufous, I doubt if the plumbeous colour of the bird described by Mr. Lawrence represents the normal coloration of the Ecuadorean bird.

The limits of the variation of colour under which the bird called *A. ventralis* presents itself are difficult to trace; and as yet I have not seen a sufficient number of specimens to be able to form very decided opinions on the subject. Mr. Sharpe (Cat. of Birds, i. p. 147) places *A. nigroplumbeus* as a synonym of *A. ventralis* without hesitation. Under our present knowledge of the bird, at least a query is wanted.

PENELOPE ORTONI, sp. n.

A single specimen of a *Penelope* in the Vassar-College Museum is labelled *P. greeyi*. It appears, however, to be distinct from that species, and may be characterized as follows:—

P. æneo-brunnescens vix viridi lavata; pileo obscuriore; pectoris plumis albo lateraliter stricte marginatis: long. tot. 32·0 poll., alæ 11·0, caudæ 9·4, tarsi 2·2, dig. med. c. ung. 2·1, rostri a rictu 1·4.

Hab. Æquat. occ. (*Orton*).

Obs. P. marail et *P. greeyi* affinis sed colore brunnescentiore et cervice postica immaculata sane diversa.

The white markings of the feathers of the chest of this species are inconspicuous, are confined to the pectoral region, and do not extend to the back of the neck as in the allied species, *P. marail* and *P. greeyi*. The species will take its place in our "Clavis" of the species of the genus (P. Z. S. 1870, p. 522) as follows:—

a'''. pileo immaculato unicolori

æneo-olivacea, maxima	*purpurascens.*
viridescenti-æenea media	*marail.*
" " minor	*greeyi.*
æneo-brunnescens	*ortoni.*

The single specimen obtained by Prof. Orton was shot near a place called Mindo, on the western slope of the volcano of Pichincha, in Ecuador, at an elevation of about 6000 or 7000 feet above the level of the sea. It will be seen, by reference to the table of the geographical distribution of the Cracidæ (*l. c.* p. 543), that this is the first species of *Penelope* that has been recognized as inhabiting Western Ecuador.

Collection of Dr. S. Cabot, Jr., Boston, Mass.

Whilst in Boston I had the pleasure of examining the collection of birds formed by Dr. S. Cabot during his travels in Yucatan, amongst which I saw the following species which appeared to me to have especial interest:—

THRYOTHORUS ALBINUCHA, Cabot, Proc. Bost. Soc. N. H. ii. p. 258.

I have no doubt that the Wren I described from Peten as *T. petenicus* (P. Z. S. 1863, p. 107) belongs to this species, the description of which I had overlooked.

CERTHIOLA CABOTI, Baird, Am. Nat. vii. et N. Am. B. i. p. 427.

Prof. Baird has recently described this species. It is, as he says, more nearly allied to the bird from the Bahamas, *C. bahamensis*, than to any other of the genus. This is most singular, for the genus is unrepresented in Cuba; and yet this species, from the small island of Cozumel, comes much nearer to the Bahama bird than it does to the continental *C. mexicana*, a bird common throughout the lowlands of Eastern Mexico and Guatemala. Besides the specimen in Dr. Cabot's collection, there is a second in the Museum of the Boston Society of Natural History, presented by Dr. Cabot.

PYRANGA ROSEIGULARIS, Cabot.

Mr. Sclater has recently written an article on this species (Ibis, 1873, p. 126, pl. 3). When in the neighbourhood of Peten, in 1862, I hoped to secure specimens of this species, but was disappointed, and at present Dr. Cabot's type specimen remains unique.

CHRYSOTIS XANTHOLORA. G. R. Gray.

Though I included this Parrot in my paper on the Psittacidæ of Central America (Ibis, 1871, p. 97) on the faith of a specimen in the British Museum said to have been collected in Honduras by the late Mr. Dyson, I always feared this locality might prove to have been erroneously given to it. I was therefore glad to find two specimens in Dr. Cabot's Yucatan collection, which leave no doubt as to the true patria of this little-known species. Dr. Cabot had not noticed the differences between this bird and *C. albifrons*, of which he had also collected specimens.

ARAMIDES AXILLARIS, Lawr. Pr. Ac. Phil. 1863, p. 107.

Dr. Cabot has a specimen of this species which he collected at a place called Las Bocas de Silan, situated on the northern coast of Yucatan, halfway between Cape Catoche and Sisal. Its range still further north is shown in Mr. Lawrence's recently published paper on the birds of Western and Northwestern Mexico (Mem. Bost. Soc. N. H. ii. p. 311), where it is included in the birds collected by the late Col. A. J. Grayson at Mazatlan. At Las Bocas de Silan Dr. Cabot also found *A. albiventris,* Lawr.

CRYPTURUS SALLÆI.

The presence of a specimen of this species in Dr. Cabot's collection is interesting, showing its range to extend into Yucatan. In Guatemala, so far as I know, it is only to be found on the southern slope of the mountains in the hot country bordering the Pacific Ocean.

Collection of Dr. T. K. Merritt, Flushing, Long Island.

Whilst staying in New York I visited Dr. Merritt, the discoverer of *Microchera albocoronata,* at his house in Flushing, Long Island. I was especially anxious to see the Pigeon collected by him in Veragua, and described by Mr. Lawrence as *Geotrygon veraguensis* (Lawr. Ann. Lyc. N. Y. viii. p. 349, 1866). Dr. Merritt kindly allowed Mrs. Salvin to take a sketch of the type specimen, which is here reproduced (Plate XII.). The species is a most distinct one, having no very near ally in this remarkable genus. It, perhaps, comes nearer to *G. costaricensis,* Lawr. (Ann. Lyc. N. Y. ix. p. 136, 1868), than to any other, but differs from that species in being smaller, and in having the hind neck and breast reddish purple, the former tinged with metallic lustre. *G. costaricensis* has the hind neck lustrous green, the interscapular region and shoulders alone being purple, and the breast slaty blue. Dr. Merritt told me that this Pigeon was quite common in the district in which he was residing, which was el Mineral de Veraguas, situated on the north-eastern slope of the Cordillera, to the south-eastward of the Chiriqui Lagoon. This district he described to me as exceedingly humid, and as entirely clothed with the densest tropical forest. Of *G. costaricensis* I saw a beautiful example in Mr. Lawrence's collection; and I find that a bird in our collection thus named, though resembling it in general coloration, differs considerably in having the wing-coverts, back, and uropygium dark umber-brown, instead of rich cinnamon. The front, too, is almost pure white, and not brownish salmon-colour. I have therefore no choice but

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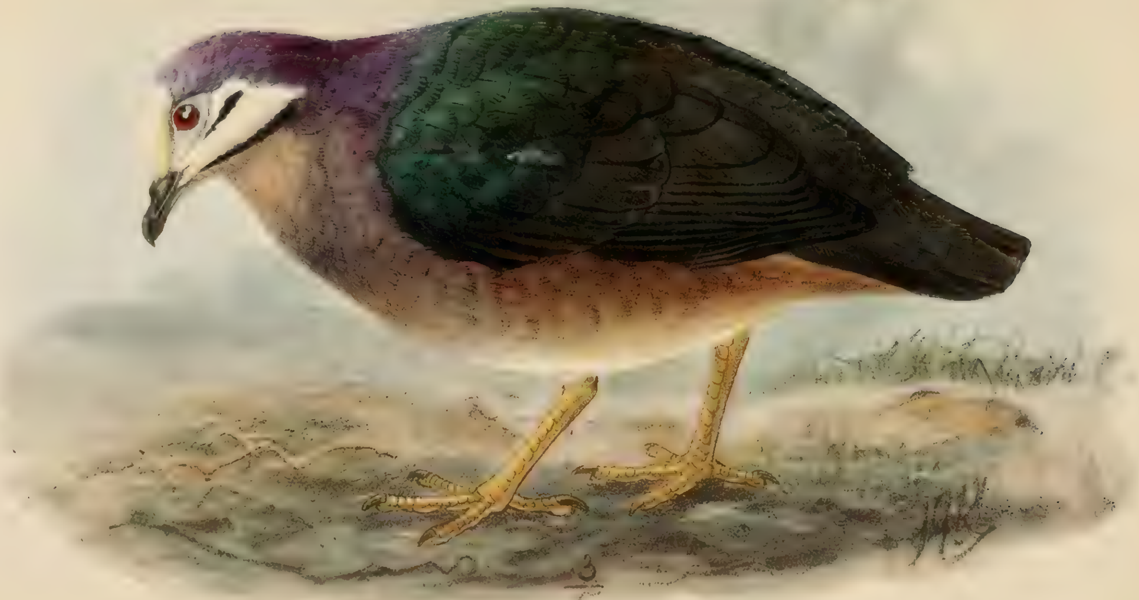

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J. G. Keulemans lith.

M&N Hanhart imp.

GEOTRYGON VERAGUENSIS

AMERICAN MUSEUM
CENTRAL PARK,
NEW YORK.
OF NATURAL HISTORY.

to differentiate another of these beautiful Pigeons. In so doing I am glad to have the opportunity of still further associating Mr. Lawrence's name with a genus in which he has described several notable species.

GEOTRYGON LAWRENCII, sp. n.

Geotrygon veraguensis, Salv. P. Z. S. 1867, p. 159 (nec Lawr.).

Fronte genis et gula albis, lineis duabus una suboculari, altera mysticali utrinque nigris: pileo antico et pectore late plumbeis, hoc obscuriore et æneo tincto, pileo postico, cervice postica et dorso antico viridescentibus, interscapuliis et humeris purpurascentibus, dorso reliquo, uropygio et alarum tectricibus obscure fuscis: remigibus primariis fusco-nigris: rectricibus lateralibus griseo-fuscis, fascia indistincta subapicali nigra, apicibus pallidioribus, duabus mediis dorso concoloribus: abdomine medio et crisso albis; hypochondriis fusco-cinnamomeis: rostro nigro; pedibus rubris: long. tot. circ. 10 poll., alæ 5·6, caudæ 3·1, rostri a rictu 1·0, tarsi 1·7.

Hab. Calobre, Veragua (*Arcé*).

Obs. G. costaricensi similis sed fronte albo et coloribus corporis suprà obscure fuscis dignoscendus.

The young bird referred by me (P. Z. S. 1867, p. 159) to *G. veraguensis*, I think, belongs to this species. Its whole colour is dark brown; but there are greenish reflections on the hind neck, and a purplish patch on the interscapular region, which seem to show its parentage. This specimen came from near Santiago de Veraguas. The adult bird we have since obtained from Calobre, and also another specimen, apparently from the same source.

Besides *Geotrygon veraguensis*, Dr. Merritt had other interesting birds in his collection, several of which were undescribed at the time he brought them from Veragua. Amongst these I noticed *Caica hæmatotis*, Scl. & Salv., *Trogon clathratus*, Salv., *Cassicus microrhynchus*, Scl. & Salv., *Pteroglossus frantzii*, Cab., *Tinamus robustus*, Scl., *Euphonia annæ*, Cassin, and others.

XXXV.—*Notes on the* Trochilidæ. *The Genus* Helianthea.

By D. G. Elliot, F.L.S., F.Z.S., &c.

The genus *Helianthea* is composed at the present time of eight species, two of which, however, should perhaps only rank as geographical races. The members of the genus are, with one exception, rather large birds, possessing long, straight, very acute bills, and constitute a well-defined group of the Trochilidæ. From the great rarity of the majority of the species, they are not well known, but few collections possessing specimens of more than three species; and at present no collection, except my own, that I am aware of, contains all the species known. All the males have a luminous mark upon the forehead, and also one upon the throat, these distinctive characters being less circumscribed in *H. isaacsoni,* which has the throat generally luminous.

The group may be divided into three sections as follows:—

Rump and underpart exceedingly luminous.

1. Tail steel-black, rump metallic green	*H. isaacsoni.*
2. Tail brownish black, rump metallic blue	*H. typica.*
3. Tail green, rump metallic golden yellow	*H. bonapartii.*
4. Tail cinnamon tipped with green	*H. eos.*

Rump not luminous, underparts slightly metallic.

5. Tail greenish brown, yellow patch on secondaries	*H. lutetiæ.*

Underparts buff.

6. Tail rufous, white band across breast	*H. violifera.*
7. Tail bright buff tipped with green, breast green	*H. osculans.*
8. Tail with a broad terminal band of green	*H. dichroura.*

All the species are natives of the Andes, dwelling for the chief part amid their loftier heights, on both sides of the equator. The locality of *H. isaacsoni* is unknown, the specimen in my collection, and one in the museum at Liverpool, being all that have ever been procured. *H. lutetiæ* is a native of Ecuador, but is not found nearer Quito than the valleys of Lloa and Pelogalli. *H. typica* is a native of Columbia, very common about Bogota. *H. eos* is found in the vicinity of Merida, in Venezuela, which at present is its only known locality. *H. bonapartii* is to be met with in Columbia, and is frequently obtained near Bogota. *H. violifera* has only been brought twice to Europe, the first time by Warszewiez, the discoverer of so many new species of this beautiful family. He stated that he procured his specimens near Chulimani, among the mountains, in Bolivia. Lately Mr. Buckley has rediscovered the species and brought specimens from Undavi, in the same country. *H. osculans* was obtained by Mr. Whitely at Cachupata, in Peru, at an altitude of 11,000 feet; and *H. dichroura* by M. Jelski at Maraynioc, Peru, a place among the lofty mountain-ranges behind Lima.

I propose to arrange the species as follows:—

HELIANTHEA ISAACSONI.

Ornysmia isaacsoni, Parz. Rev. Zool. 1845, p. 95.

Eriocnemis isaacsoni, Gould, Mon. Troch. vol. iv. pl. 272; Id. Intr. Troch. p. 144, sp. 301.

This bird, first described by M. Parzudaki, as above cited, has always been included among the members of the genus *Eriocnemis*, and as such was figured by Mr. Gould in his monograph of the family. Its extreme rarity prevented ornithologists generally from forming an opinion as to its proper position in the Trochilidæ; but on receiving the specimen now in my collection, I saw that it was not an *Eriocnemis*, but more properly belonged to the present genus. It might be, perhaps, correct to make it the type of a new genus; but as I am adverse to the multiplication of these divisions, too many of which have been already established on insufficient grounds, I prefer to place the species in *Helianthea*, with which it appears to have a very close alliance. It is at once separated from *Eriocnemis* by wanting the conspicuous tufts on the tarsi, so marked a character in all the members of that genus, and in the form of the bill and general coloration of its plumage shows its affinity to *Helianthea*. As it is so rare a species, a description may not be out of place; and I therefore add that of my specimen.

Upper part of head dark metallic green, a small spot of very luminous metallic light grass-green upon the forehead at the base of the maxilla. Back grass-green inclined to bronze in certain lights. Wings like the back; primaries purplish brown. Rump and upper tail-coverts a peculiarly brilliant metallic grass-green, with bronze reflections in certain lights. Entire throat brilliant grass-green, like the spot on the forehead; upper part of the breast metallic green, lighter in hue than that of the throat; rest of lower parts brilliant metallic light coppery bronze, changing in certain lights to a deep red upon the abdomen. Under tail-coverts extremely brilliant light grass-green. Tail brownish black, with a purple shade. Bill long, slender, acute, black. Tarsi covered partly with short white feathers. Feet black.

Length 4¾ inches, wing 2¾, tail 2, bill 1.

This is a very beautiful species, and no drawing could do it justice; even that of Mr. Gould, although executed with great care and all the appliances art could suggest, gives no idea of the brilliancy of the bird's plumage.

Hab. Unknown.

My specimen is from Verreaux, ex Parzudaki?

HELIANTHEA TYPICA.

Ornismya helianthea, Less. Rev. Zool. 1838, p. 314.

Helianthea typica, Gould, Mon. Troch. vol. iv. pl. 235; id. Intr. Troch. p. 130, sp. 260.

The commonest species of the genus, being sent to Europe from Bogota in hundreds. A slight difference in size is perceptible among individuals, but not denoting any specific value.

I possess the following specimens, 2 ♂, 3 ♀, 1 ♂ juv. from Columbia.

HELIANTHEA BONAPARTII.

Ornismya bonapartei, Boiss. Rev. Zool. 1840, p. 6.

Helianthea bonapartei, Gould, Mon. Troch. vol. iv. pl. 236; id. Intr. Troch. p. 130, sp. 261.

Hab. Columbia.

A very beautiful species, frequently obtained from Bogota, and constituting, with the preceding species, the common members of the genus.

I have 3 ♂, 2 ♀ specimens from Columbia.

HELIANTHEA EOS.

Helianthea eos, Gould, P. Z. S. 1848, p. 6; id. Mon. Troch. vol. iv. pl. 237; id. Intr. Troch. p. 131, sp. 262.

Hab. Vicinity of Merida, Venezuela.

This bird, extremely rare in collections, is closely allied to the *H. bonapartii,* but is even more brilliant than that species. It differs in having the breast metallic golden yellow, instead of green, in the larger size of the frontal and gular spots, in the fiery red of its undersurface, and the cinnamon-coloured secondaries and tail. It was first described by Gould in the 'Proceedings' of the Zoological Society, as above cited.

The four species thus far enumerated are very luminous upon the flanks and abdomen; the succeeding one, *H. lutetiæ,* is but slightly metallic upon those parts, and apparently leads on to *H. violifera* and its allies, which are entirely destitute of brilliant colouring.

I have two specimens, 1 ♂ (*ex Verreaux*), 1 ♂ (*Goering*), from Merida, Venezuela.

HELIANTHEA LUTETIÆ.

Trochilus lutetiæ, Delattre & Bourc. Rev. Zool. 1846, p. 307, sp. 6.

Helianthea lutetiæ, Gould, Mon. Troch. vol. iv. pl. 238; id. Intr. Troch. p. 131, sp. 263.

Hab. Ecuador and Volcano of Puracé, near Popayan.

This species, first described by Delattre and Bourcier, as above cited, has long been known to ornithologists, and is one of the commonest species of this genus. It is easily recognized by its large size and conspicuous yellow patch upon the secondaries; and there are but few collections without examples.

My specimens include 4 ♂, 1 ♂ juv. from Ecuador, and 1 ♀ from the Rio Napo.

HELIANTHEA VIOLIFERA.

Trochilus violifer, Gould, P. Z. S. 1846, p. 87, sp. 8.

Helianthea violifera, Gould, Mon. Troch. vol. iv. pl. 239; id. Intr. Troch. p. 131, sp. 264.

Hab. Bolivia.

A well-marked but rare species, differing from all those previously known by its non-luminous buff underparts. It has only been procured twice, and is a desideratum in most collections.

I possess three specimens: 1 ♂ (*Warszewiez*) from Bolivia; 1 ♂, 1 juv. ♂ (*Buckley*) from Bolivia.

HELIANTHEA OSCULANS.

Helianthea osculans, Gould, P. Z. S. 1871, p. 503.

Hab. Peru.

It is to Mr. H. Whitely that we are indebted for the discovery of this fine bird. He procured the few examples he sent to England at Cachupata, in Peru, at a height of 11,000 feet. It was probably migrating when he met with it, as he only saw it for a short time at a certain season. It is very closely allied to *H. violifera*, but is destitute of the white band across the breast, so conspicuous in that species, the upper part of the breast is a deeper green, and that hue covers a much larger area. The tail also is conspicuously tipped with bronzy green; that of *H. violifera* shows merely an indication of that colour.

I have two specimens, 1 ♂, 1 ♂ juv. (*Whitely*) from Cachupata, Peru.

HELIANTHEA DICHROURA.

Helianthea dichroura, Taczanowski, P. Z. S. 1874, p. 138.

This species was obtained by M. Jelski at Maraynioc, in the mountains behind Lima, Peru, and three specimens sent to M. Taczanowski, the Director of the Warsaw Museum of Natural History, who described it in the 'Proceedings' of the Zoological Society, as given above. Its principal difference from *H. osculans* is in the tail, where the bronze tips of that species are extended in the present bird for one third the length of the tail-feathers, forming a very conspicuous apical band. Otherwise the birds are very much alike. Whether this mark is sufficient to constitute a specific difference, with my present knowledge of the bird (having only seen the three specimens sent over), I am unable to determine; but many species of the Trochilidæ have been established on much slighter grounds. It looks as if it might prove to be a geographical variety of *H. osculans*.

My specimen, ♂, a type (*Jelski*), Maraynioc, Peru, was presented to me by M. Taczanowski.

XXXVI.—*Notes on the Specimens in the Berlin Museum collected by Hemprich and Ehrenberg.* By H. E. Dresser, F.L.S. &c., and W. T. Blanford, F.R.S. &c.

In September 1873 we were working conjointly at the genus *Saxicola*, and arranged to spend our holidays on the Continent together and utilize our spare hours in examining the types in several of the continental museums. Most of our time we spent in Berlin; and when working in the museum in that city we thought that a critical examination of the types of Ehrenberg, being the collection made by Hemprich and Ehrenberg, which is deposited in the Berlin Museum, might prove of use; we therefore carefully examined them. We may here state that we took with us a large series of Warblers (Sylviidæ) and Chats (Saxicolidæ) for comparison; amongst the latter were most of Canon Tristram's types. As almost all ornithologists are doubtless aware, descriptions of the various species considered to be new were published by Ehrenberg, after the death of Hemprich, in Hemprich and Ehrenberg's 'Symbolæ Physicæ. Aves' (Berlin, 1829), the descriptions being chiefly given in footnotes to this work. The pages are not numbered; thus the following references are only to the folios:—

Lanius nubicus, Licht., Ehr. fol. *e*. The type agrees closely with Sharpe and Dresser's plate in the 'Birds of Europe,' part ii.

Lanius isabellinus, Ehr. fol. *e*. In the collection are three specimens from Gumfudde and one from Arabia, all in winter dress, none having the red of the head developed.

Ardea ibis, Hasselquist, Ehr. fol. *l*. One specimen, No. 74, from Nubia, is an immature bird of *Ardea bubulcus*, No. 10132 in Gray's 'Hand-list.'

Lepterodatis flavirostris syriacæ, Ehr. fol. *m.* One specimen, No. 92, from Syria, is referable to *Ardea alba,* Linn., Gray, Hand-list, no 10108. It measures—bill from gape 6·0 inches, wing 16·0, tail 6·5, tarsus 7·0.

Nycticorax brevipes, Ehr. fol. *m.* One specimen, No. 146, from Arabia, is an immature bird of *Nycticorax griseus,* L., Gray, Hand-list, no. 10171.

Cuculus pica, Ehr. fol. *r*=*Coccystes jacobinus* (Bodd.), Gray, Hand-list, no. 9082. There is one specimen, No. 81, from Nubia.

Centropus superciliosus, Ehr. fol. *r.* Gray, Hand-list, no. 8949. There are four specimens in the collection—No. 12 from Abyssinia, No. 13 from Arabia, No. 14 from Abyssinia, and No. 15 from the same locality, but in young plumage, lacking the stripes on the breast, where it is washed with rufous, and has imperfect dark transverse markings towards the ends of the quills.

Picus syriacus, Ehr. fol. *r.* Gray, Hand-list, no. 8556. Two specimens from Syria agree closely with Sharpe and Dresser's plate (in part ix. 'Birds of Europe') of the Syrian Woodpecker in immature plumage. One is greatly faded. They are marked by Lichtenstein *Picus fuliginosus.*

Picus æthiopicus, Ehr. fol. *r*=*Picus nubicus,* Gm., Gray, Hand-list, no. 8698. There is one specimen only, No. 211, from Abyssinia.

Picus hemprichii, Ehr. fol. *r.* Gray, Hand-list, no. 8650. Two specimens, Nos. 212 and 213, from Abyssinia, both females, the former measuring—culmen 0·72 inch, wing 3·1, tail 1·55, tarsus 0·7; and the latter—culmen 0·69, wing 3·1, tail 1·55, tarsus 0·69.

Muscicapa grisola. Ehrenberg, fol. *r,* refers to varieties of this species; but after a careful examination of the specimens we could detect no differences, except such as are found in our common European species.

Muscicapa lais, Ehr. fol. *t*=*Erythrosterna parva* (Bechst.), Gray, Hand-list, no. 4839. Two specimens, Nos. 8 and 37, both from Arabia, are young males.

Coracias habessinica, Ehr. fol. *z,*=*Coracias abyssinica,* Bodd., Gray, Hand-list, no. 905. Two specimens, Nos. 4 and 15, are from Abyssinia; and one, No. 19, is from Egypt. Young examples from South Africa in the Berlin Museum are labelled *Coracias loquax,* Licht.

Corvus scapularis, var. æthiops, Ehr. fol. *z,* appears to be merely a brown-headed variety of *Corvus scapulatus,* Daud., Gray, Hand-list, no. 6224. This variety is also *C. phæocephalus,* Cab., Gray, Hand-list, no. 6226. There are three specimens collected by Hemprich and Ehrenberg, all from Abyssinia. Two of these measure as follows:—

	Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
No. 29 ……..	2·4	13·75	7	2·37
94 ……..	2·45	14·5	7·3	2·55

Picus stridens, Ehr. fol. *z,*=*Garrulus atricapillus,* Geoff. St.-Hil.; and the type agrees closely with the plate of this species in Dresser's 'Birds of Europe,' part xx. (August 1873).

Pyrrhocorax alpinus, var. digitata, Ehr. fol. *z.* One specimen from Bischerra measures culmen 1·4 inch, wing 11·0, tail 7·0, tarsus 1·85, and otherwise agrees closely with the ordinary form of *P. alpinus.*

Oriolus galbula, var. virescens, Ehr. fol. *z.* One male and two females from Arabia do not differ from the ordinary form of *Oriolus galbula.*

Buceros forskålii, Ehr. fol. *z,* is scarcely distinguishable from *B. nasutus,* but appears to be larger, and has a longer wing. There are three specimens in the collection, which measure as follows:—

	Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
No. 15620 (type). Arabia ….	5·0	9·5	9·0	1·75
18. Abyssinia ……	5·0	9·5	9·0	1·65
19. do. ……	4·75	9·75	8·5	1·6

Buceros erythrorhynchus, var. leucopareus, Ehr. fol. *aa*. The type, No. 15618, measures culmen 3·5 inch, wing 7·0, tail 8·2, tarsus 1·55. It is marked as having been obtained in Abyssinia. Another specimen of *B. erythrorhynchus* (No. 26), collected in Arabia by Hemprich and Ehrenberg, is labelled *B. melanoleucus*, Licht.

Buceros hemileucus, Ehr. fol. *aa*, is, we consider, nothing but the female of *B. forskålii.* The type (No. 20) is from Abyssinia, and measures, culmen 3·8 inches, wing 8·75, tail 7·8, tarsus 1·65.

Buceros hemprichii, Ehr. fol. *aa*, = *Buceros limbatus*, Rüpp., Gray, Hand-list, no. 7899, Ehrenberg's name having priority (cf. Blanf. Geol. & Zool. Abyss. p. 326). The type is from Abyssinia, and is also labelled *B. semirufus*, Licht.

Turdus musicus, var. planiceps, Ehr. fol. *aa*, does not differ from the ordinary form of *Turdus musicus.*

Saxicola monacha, Rüpp. fol. *aa*. All the specimens collected by Hemprich and Ehrenberg are labelled *L. gracilis*, Licht.

Saxicola xanthomelæna, Ehr. fol. *aa*, is the eastern form of *Saxicola rufa*, and stands as *Saxicola melanoleuca.* There are two specimens from Nubia, both of which are labelled *S. albicilla*, v. Müll. This species is figured by Dresser in part xxv. of the 'Birds of Europe.'

Saxicola morio, Ehr. fol. *aa*, is a good species, being the eastern form of *Saxicola leucomela*, differing in having the under surface of the wing black and the crissum white. The specimens are from Upper Egypt and Arabia.

Saxicola hemprichii, Ehr. fol. *aa*, differs from *Pratincola rubicola* in having more white on the tail; but this character is extremely variable, as in some specimens it extends from the base to within one third of the end of the tail, whereas in others it is barely visible.

Saxicola aurita, var. libyca, Ehr. fol. *aa*, = *Saxicola stapazina*, L. (*S. aurita* auctt.)*. There are two specimens—a young female from Ghenneh, obtained in October, and a male obtained at Dongola in April.

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* [*Cf. antea*, p. 302, where this view is demurred to.—Ed.]

Saxicola rostrata, Ehr. fol. *aa.* The type of this species is not in the collection; but Ehrenberg describes it as differing from *S. œnanthe* in having a larger and longer bill. Amongst the specimens of *S. œnanthe* there are many specimens from the localities indicated having bills answering to Ehrenberg's description.

Sylvia semirufa, Ehr. fol. *bb.* Of this species there are eight specimens from Lebanon and one from Egypt, all of which agree with *Ruticilla rufiventris*, Vieill., Gray, Hand-list, no. 3161, but are, as a rule, smaller in size.

Curruca stentorea, Ehr. fol. *bb,* will stand as *Acrocephalus stentoreus* (Ehr.), and is an excellent species. There are two specimens, both labelled *Turdus stentor*, H. & Ehr., one from Ins-Rásfakil and the other from Arabia, which measure as follows:—

	Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
No. 305. Arabia	0·95	3·15	3	1·08
306. Ins-Rásfakil	0·93	3·35	3·15	1·16

Curruca pallida, Ehr., Curruca andromeda, Ehr., and Curruca maxillaris, Ehr. fol. *bb.*, are all referable to the species commonly known as *Hypolais elæica*, Lind., Gray, Hand-list, no. 3028, which will stand as *Hypolais pallida* (Ehr.). There are two specimens from Egypt, three from Nubia, three from Dongola, and one from Embukohl, the measurements of which are—culmen 0·5 to 0·56 inch, wing 2·4 to 2·6, tail 1·9 to 2·06, tarsus 0·82 to 0·88.

Curruca famula, Ehr. fol. *bb,*=*Drymœca inquieta*, Rüpp., Gray, Hand-list, no. 2751. There are in the collection three specimens—one from Egypt, and two from Arabia.

Curruca viridula, Ehr. fol. *bb.* There are five specimens, three of which have rather longer wings than the others, which are undistinguishable from the common Willow-Wren (*Phylloscopus trochilus*); and we cannot see that any differs specifically from that species. The measurements are as follows:—

	Wing. in.	Tail. in.	Tarsus. in.
No. 231	2·64	1·97	0·78
395	2·65	2·02	0·84
396	2·42	1·92	0·78
428	2·75	2·18	0·75
429	2·75	1·97	0·83

CURRUCA THEBAICA, Ehr. fol. *bb*. The type of this species is missing. Dr. Cabanis informed us that he believed it to be the female of his *Melizophilus nigricapillus*.

CURRUCA MOMUS, Ehr. fol. *bb*. Differs merely from *Sylvia melanocephala* in being somewhat smaller in size, and can scarcely be considered distinct. Dr. Cabanis's *Melizophilus nigricapillus* (Mus. Hein. i. p. 35, no. 231) is founded on these specimens, collected by Hemprich and Ehrenberg, the measurements of which are as follows:—

	Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
No. 252. Nubia	0·5	2·1	2·08	
253. „	0·5	2·22	2·13	
435. Syria..........	0·51	2·08		0·72

IXUS XANTHOPYGOS, Ehr. fol. *bb*, is a good species. In the collection there are three old and one young bird from Arabia.

MERULA SYRIACA, Ehr. fol. *bb*. We could not find the type of this species.

SAXICOLA EURYMELÆNA, Ehr. fol. *bb*, = *Saxicola melanoleuca*, Güld. There are three specimens, all from Syria.

SAXICOLA LIBANOTICA, Ehr. fol. *bb*, = *Saxicola œnanthe*. There are nine specimens, from Syria, Arabia, and Palestine.

CURRUCA GALACTODES, var. SYRIACA, Ehr. fol. *bb*. Amongst the specimens of this bird collected in Syria by Hemprich and Ehrenberg, three in number (Nos. 667 and 310 from Beyrout, and No. 487 from Syria), two, Nos. 667 and 310, are referable to *Aedon familiaris*, and the third, No. 487, is referable to *Aedon galactodes*. Besides these we examined in the Hemp. & Ehr. collection three specimens from Abyssinia, types of *Aedon minor*, Cab., and four from Egypt, all of which we find to agree closely with *Aedon galactodes*.

Curruca languida, Ehr. fol. *cc*, is a good species, identical with *Hypolais upcheri*, Tristr., and will stand as *Hypolais languida* (Ehr.). There is only one specimen in the collection, from Syria, which measures culmen 0·62 inch, wing 2·95, tail 2·43, tarsus 0·92.

Curruca orphea, var. helena, Ehr. fol. *cc*, differs from our common European *Sylvia orphea* in having a longer bill, and is the eastern form of that species (*Sylvia jerdoni*). There are in the collection three specimens, measuring as follows:—

	Culmen. in.	Wing. in.	Tail. in.	Tarsus. in.
No. 453. Syria..........	0·71	3·1	2·6	0·92
454. Arabia	0·75	3·15	2·75	1·02
455. do.	0·74	3·18	2·67	1·0

Saxicola vittata, Ehr. fol. *cc*, is an excellent and very distinct species. There is but one specimen, from Moileh, which agrees precisely with the figure of *Saxicola leucolæma*, Antin. & Salvad. Att. R. Accad. Sci. Tor. viii. p. 32 & pl. (1872).

Saxicola erythræa, Ehr. fol. *cc*. There is but one specimen in the collection, from Arabia, in immature plumage, agreeing closely with the type of *S. halophila*, Tristr. It is labelled *Saxicola lugens*, Licht. For full particulars respecting this species, *vide* Dresser, 'Birds of Europe,' part xxv.

Curruca fusca, Ehr. fol. *cc*, agrees with ordinary typical specimens of *Acrocephalus streperus* (Vieill.).

Curruca nana, Ehr. fol. *cc*. The types from Tor and Djeddah agree with *Sylvia delicatula*, Hartl. (Ibis, 1859, p. 340, pl. x.), which name will accordingly sink into a synonym.

Curruca platystoma, Ehr. fol. *cc*. There is but one specimen, from Arabia, in the collection, which is undistinguishable from *Phylloscopus bonellii*, Vieill., Gray, Hand-list, no. 3033.

Curruca leucomelæna, Ehr. fol. *cc*, resembles the young of *Sylvia rueppelli*, except in the arrangement of the quills, and may probably be referable to that species. There is but one specimen, from Arabia, in the collection, in very abraded plumage and wanting the outer tail-feather on each side. It measures culmen 0·59 inch, wing 2·75, tail 2·55, tarsus 0·83; the first long primary measures about 0·8 inch shorter than the second in one, and 0·85 in the other wing, and is about 0·6 inch longer than the wing-coverts; the third is 0·25 shorter than the fourth, which is about equal with the fifth and sixth; the seventh, eighth, and ninth quills are wanting in both wings; the secondaries reach to within about 0·2 of the end of the wing.

Anthus brachycentrus, Ehr. fol. *dd*, = *Anthus campestris*, Gray, Hand-list, no. 3635. There is but one specimen (No. 34), from Gumfudde, in the collection, which measures culmen 0·68 inch, wing 3·35, tail 2·78, tarsus 0·95, hind toe with claw 0·75.

Sphenura squamiceps, Ehr. fol. *dd*, = *Crateropus squamiceps*, Rüpp., Gray, Hand-list, no. 4144. There are in the collection two specimens, both from Arabia, one having been obtained near Mecca.

Sphenura erythroptera, Ehr. fol. *dd*, = *Telephonus erythropterus* (Shaw), Gray, Hand-list, no. 6052. In the collection are only two specimens, from Abyssinia, which are labelled *Lanius frenatus*, Licht.

Saxicola xanthoprymna, Ehr. fol. *dd*, is a young bird of *Saxicola erythropygia*, Taylor (Ibis, 1867, p. 61), which name will accordingly drop into a synonym. This species was described by Dresser (B. of Eur. part xvi.) under the name of *Saxicola mæsta*, Licht., which latter, however, we ascertained, on examining the type, to be the species usually known as *S. philothamna*, Tristr. There is but one specimen, from Nubia, in the collection.

Sylvia tites, β. campylonyx, Ehr. fol. *dd*. There is but one specimen, from Nubia, in the collection, which is a female or young male of *Ruticilla titys.*

Sylvia mesoleuca, Ehr. fol. *ee,* is a distinct species from *Ruticilla phœnicurus,* differing chiefly in having a white patch on the wing, and approaches very closely to, if it is not identical with, *Ruticilla hodgsoni,* Moore (P. Z. S. 1854, p. 26, pl. lviii.). There is but one specimen, from Djedda, of which it may not be out of place to give the following description:—Forehead, lores, ear-coverts, sides of neck, throat, and upper part of the breast glossy black; a broad white frontal band behind the black forehead; crown, nape, and mantle blackish or dusky slate; rump and upper tail-coverts rusty red; rectrices rather darker red, the two central ones with the inner web, except at the base, and the outer web dusky; quills blackish brown, all excepting the first edged with white on the central portion of the outer web, forming a patch about 1¼ inch in length, the white margin being largest on the innermost quills; lower parts from the throat ferruginous red, deepest on the breast, and palest on the lower tail-coverts, and whitish in the centre of the abdomen; lower wing-coverts rusty red. Culmen 0·51 inch, wing 3·16, tail 2·4, tarsus 0·85.

Of *Ruticilla phœnicurus,* in the Hemprich and Ehrenberg collection there are an adult and a young bird from Nubia, one from Syria, and one from Arabia.

Sylvia lypura, Ehr. fol. *ee.* The type, a young bird from Abyssinia, is certainly an immature specimen of *Cercomela melanura* (Rüpp.), Gray, Hand-list, no. 3242.

In conclusion we must express our extreme appreciation of the very ready manner in which Dr. Cabanis gave us access to the collection and rendered us every assistance in his power, permitting us to enter the museum at all hours, and giving us duplicate keys to the cases, so that we could take out and examine the types at our leisure.

XXXVII.—*On the Genus* Todus. By R. Bowdler Sharpe, F.L.S., F.Z.S., &c., Senior Assistant, Zoological Department, British Museum.

(Plate XIII.)

The discovery of an apparently new species of *Todus* is an event of some interest; and I am indebted to Mr. Henry Whitely, of Woolwich, for the specimen which first set me working on this genus. It is certainly the most beautiful species yet known, and apparently undescribed. The collection in which it came to England was said to have been sent direct from Jamaica; but, although the bulk of the birds were undoubtedly from that island, it may be doubted whether there is any corner so little explored as to produce a new *Todus* and the curious *Phyllomanes iora*, lately described by me from the same collection.

In order to assure myself that the new bird had not received a name, I set to work to revise the whole genus; and I commence by detailing its literary history. Happily the genus *Todus* has had a comparatively uneventful career, no worse luck having befallen it than a constant bandying backwards and forwards from the Tyrannidæ to the neighbourhood of the Momotidæ; but it seems to have now settled down near the latter family. Its few species have not been determined without the greatest confusion as regarded their habitats, the chief offender being Lesson, who called the *Todus* from Porto Rico *T. mexicanus*, and gave the title of *portoricensis* to the Cuban species. This complication I have endeavoured to unravel in the second portion of this paper.

1760. Brisson first characterizes the genus *Todus* (Orn. iv. p. 528), and takes the description of the type from an example in the collection of the Marquis de Réaumur, *said* to have been collected in Martinique by M. Thibault de Chanvalon. The figure given (pl. xli. fig. 2) is by no means good, not showing the red gorget; but the description, as far as it can be interpreted, seems to suit best the San-Domingo bird, and not the Jamaican species.

1766. Linnæus in his 'Systema Naturæ' (p. 178) adopts

Brisson's genus *Todus,* but associates with the type, *T. viridis,* the Tyrannine bird now known as *Todirostrum cinereum.* The diagnosis given will suit any member of the genus; but the references to Brown, Sloane, and Edwards sufficiently indicate that the Jamaican bird was intended.

1783. Buffon figures (very badly) the San-Domingo Tody in the 'Planches Enluminées' (585. figs. 1, 2) as the *Todier de St.-Domingue.*

1805 [?]. Desmarest, in the 'Histoire Naturelle des Tangaras, des Manakins et des Todiers,' figures and describes (pl. 67) the Porto-Rico bird as *Todus viridis.* The date of this book on the title-page is given as 1805; but works are referred to in the text which were published many years later—for instance, Vieillot's article next mentioned.

1819. The "*Todier vert,*" published by Vieillot in the 'Nouveau Dictionnaire,' xxxiv. p. 184, pl. 29. fig. 4 (*fig. mala*), is the San-Domingo bird.

1823. Bonnaterre and Vieillot, in the 'Encyclopédie Méthodique' (i. p. 269), describe *T. viridis,* but give the habitat erroneously as N. America. Their description appears to represent the San-Domingo species.

1825. The Porto-Rico Tody is again figured by Oudart in Vieillot's 'Galerie des Oiseaux' (pl. cxxiv.) as *Todus viridis.*

1831. Lesson, in the 'Traité d'Ornithologie' (p. 250), mentions *Todus viridis,* Gm., as an inhabitant of Porto Rico in the Antilles (*Maugé*).

1832–33. Swainson, in the second series of his 'Zoological Illustrations' (vol. ii. pl. 66), figures the Jamaican bird as *Todus viridis.*

1837. Swainson, in his 'Natural History of Flycatchers' (p. 173), describes the Jamaican bird again, and figures it in the vignette as a frontispiece to the volume.

1837. Mr. Gould figures in the 'Icones avium' and describes *Todus multicolor* from an unknown locality. He refers to the P. Z. S. for 1837 for the original description; but it does not appear to have been communicated to the Zoological Society. This species is now known to be from Cuba.

1838. Lesson, in the 'Annales des Sciences Naturelles,' vol. ix. p. 166, commences an article on birds with a few remarks "Sur Les Todiers," and describes *T. viridis, T. mexicanus,* and *T. portoricensis.* The last two species were collected by his brother, M. Adolphe Lesson; and as the former is circumstantially declared to be found near Tampico, it would be a puzzle to know what Mexican bird could have been mistaken for it, had there not been an evident error in locality.

1839. D'Orbigny describes the bird of Cuba from Ramon de la Sagra's materials, and figures *Todus multicolor* (pl. xxii.). In the 'Hand-list' (p. 79) Mr. Gray quotes "*cyanogenus,* Sagra," as a synonym of *T. multicolor*; but I cannot find another reference to this name.

1840. Mr. G. R. Gray, in his first 'List of Genera of Birds' (p. 9), places the Todinæ between the Coracianæ and the Eurylaiminæ.

1841. The same author, in a second edition of the above-mentioned 'List,' preserves the same order.

1847. Mr. G. R. Gray, in his great work the 'Genera of Birds' (i. p. 63, t. 22), recognizes four species, viz. *T. viridis, T. mexicanus, T. portoricensis,* and "*T. subulatus,* Gould." The latter is the S.-Domingo Tody, and is figured but not described. The name must stand on the authority of the plate.

1847. Lafresnaye (Rev. Zool. 1847, pp. 326–333) gives a review of the genus *Todus,* in which he recognizes four species. *T. viridis* he considers to be the Jamaican bird; *T. dominicensis* he describes as new; *T. portoricensis,* of Lesson, he quotes and correctly identifies with it *T. multicolor* of Gould; and of *T. mexicanus* he reproduces Lesson's original description.

1847. Mr. Gosse gives a figure of *Todus viridis* in his 'Birds of Jamaica' (pl. xiv.), along with a very interesting account of the species (p. 72). He says that he does not believe in the distinctness of *T. multicolor,* "the slight distinctions of hue being scarcely more than variations which I have found in Jamaican specimens; some of which, in my possession, display the pale blue on the sides of the throat and the orange on the flanks." It is certain that there is something to be elucidated concerning the Jamaican *Todus* as regards its plumages, as I remark below. All Dr. Sclater's specimens have the small bill and no blue neck-spot; yet one of them was marked a male by the late W. Osburn.

1848. Mr. G. R. Gray, in the 'List of Fissirostres in the British Museum' keeps the Todinæ as a subfamily of the Coraciidæ, and mentions three species in the collection—*Todus viridis,* from Jamaica, *T. multicolor,* and *T. mexicanus,* from Mexico.

1850. Lembeye, in his 'Aves de la Isla de Cuba,' gives no particular account of the *Todus,* which he only mentions in his catalogue of the birds of the island (p. 131).

1850. Prince Bonaparte, in the 'Conspectus' (i. p. 182), places the Todinæ between the Psarinæ and the Tyranninæ. Four species, *T. viridis, T. mexicanus, T. multicolor, T. subulatus,* are recognized.

1851. Lafresnaye describes as new *Todus angustirostris* from S. Domingo, collected by Sallé (Rev. Zool. 1851, pp. 477–479).

1856. Dr. Gundlach, in a paper on the birds of Cuba (J. f. O, 1856, p. 101), describes the young bird of *T. multicolor.*

1857. M. Sallé gives the ornithological results of his travels in S. Domingo (P. Z. S. 1857, p. 233), and writes an account of the habits of *Todus subulatus,* expressing his belief that *T. angustirostris* is only sexually distinct from *T. subulatus.*

1859. Dr. Gundlach (J. f. O. 1859, p. 347) places the genus *Todus* between *Alcedo* and *Muscicapa.*

1859–60. Messrs. Cabanis and Heine, in the 'Museum Heineanum' (Th. ii. p. 49), include the Todinæ as a subfamily of the Tyrannidæ, placing *Todus* close to *Platyrhynchus* and *Triccus* (*Todirostrum* auct.).

1861. Gundlach gives a tabular view of the birds of Cuba in the 'Journal für Ornithologie,' and mentions *T. multicolor* at p. 334. He describes the nesting of the bird (p. 414).

1861. Dr. Sclater describes Mr. Osburn's Jamaican collection, wherein *Todus viridis* occurred (P. Z. S. 1861, p. 77).

1862. Dr. Sclater has two species in his collection, and gives some of the synonymy (Cat. Am. B. p. 263).

1866. In vol. xi. of the 'Proceedings' of the Boston Society of Natural History (pp. 39 & 89), the late Dr. Bryant gives lists of Porto-Rico and S.-Domingo birds. He calls the former bird *Todus hypochondriacus,* the latter *T. dominicensis,* and, having examined Lafresnaye's types of *T. angustirostris,* comes to the conclusion that it is only a narrow-billed specimen of the ordinary S.-Domingo bird.

1866. In the 'Journal für Ornithologie' a translation of Dr. Bryant's Porto-Rico paper is given (p. 181), containing an account of *Todus hypochondriacus.*

1867. Professor Baird, in his well-known article on the migrations of North-American birds, mentions his belief that *Todus mexicanus,* of Lesson, is the Porto-Rican species (Ibis, 1867, p. 260).

1869. The late Mr. G. R. Gray, in his 'Hand-list' (p. 79), departs so far from his old arrangement of 1840 and 1841 as to shift the Todidæ nearer to the Momotidæ, though he keeps them in the immediate vicinity of the Eurylæmidæ. Five species are admitted, *T. mexicanus* being considered a good species, and *T. hypochondriacus* united to *T. multicolor.*

1871. In a new review of the birds of Cuba (J. f. O. 1871, p. 288) a note on *T. multicolor* and allies is given by Dr. Gundlach.

1872. Dr. Murie (P. Z. S. 1872, pp. 664–680, pl. ix.) details the osteological characters of *Todus,* and allies it to the Momotidæ and Alcedinidæ and other closely allied Picarian families; but, at the same time, he allows some relationship to the Flycatchers; and in 'The Ibis' for 1872 (pp. 390, 394) he further dwells on the close affinities of the Todidæ and Momotidæ, grouping them under Blyth's name Serratirostres.

1872. Prof. Sundevall, in his 'Tentamen,' makes a section, *Exaspideæ lysodactylæ,* of his cohors Exaspideæ (p. 57). In this section he places the Todinæ close to the Piprinæ, and not far from the Tyrants, expressing his belief that they are nearly allied to *Triccus.*

1872. Mr. Sclater, in a paper on the systematic position of *Peltops, Eurylæmus,* and *Todus* (Ibis, 1872, p. 179), considers that *Todus* is closely allied to the Kingfishers, and still more to the Momotidæ. The sternum of *Todus* is figured.

1873. Messrs. Sclater and Salvin, in their 'Nomenclator Avium Neotropicalium' (p. 103), place the Todidæ between the Alcedinidæ and Momotidæ. They recognize four species, viz. 1. *T. viridis*, 2. *T. dominicensis*, 3. *T. hypochondriacus*, 4. *T. multicolor*. No mention is made of *T. mexicanus*, which is doubtless considered to be identical with *T. hypochondriacus*.

Family TODIDÆ.

Genus Todus.

Todus, Linn. S. N. i. p. 178 (1766, *ex Briss.*): type *T. viridis*.

Range. Confined to the Greater Antilles.

Key to the Species.

- *a*. With a pink tuft on the flanks.
  - *a′*. Chest uniform, not ocellated with oval spots of white.
    - *a″*. Moustache ending in an ashy grey spot.
      - *a‴*. Breast white tinged with green; flanks green, with pink tufts.... *viridis*.
      - *b‴*. Breast pure white; flanks entirely pink, with no green............ *subulatus* [♀?].
    - *b″*. Moustache ending in a bright verditer spot; breast white, very slightly tinged with pink here and there .... *multicolor*.
  - *b′*. Chest pinkish, ocellated with distinct oval spots of white.
    - *c″*. Above bluish green; moustache and edge of wing light pink .... *pulcherrimus*.
    - *d′*. Above bright grass-green; moustache and edge of wing whitish .... *subulatus* [♂?].
- *b*. Flanks yellow, with no pink tuft; chest ashy grey .. *hypochondriacus*.

1. Todus viridis.

Todus viridis, Linn. S. N. i. p. 178 (1766); Less. Traité, p. 250 (1831); Sw. Zool. Illustr. 2nd ser. pl. 66 (1833); id. Monogr. Flyc. p. 173, vign. (1837); Less. Ann. Sc. N. ix. p. 166 (1838); Gray, List of Gen. 1840, p. 9, et 1841, p. 12; Gosse, B. Jamaica, p. 72, pl. xiv. (1847); Lafr. R. Z. 1847, p. 332; Gray, Gen. B. i. p. 63 (1847); id. Cat. Fissir.

B. M. p. 35 (1848); Bp. Consp. i. p. 182 (1850); Scl. P. Z. S. 1861, p. 77; id. Cat. Am. B. p. 263 (1862); Gray, Hand-l. B. i. p. 79 (1869); Murie, Ibis, 1872, p. 390; Sundev. Meth. Av. Tent. p. 61 (1872); Scl. & Salv. Nomencl. Av. Neotr. p. 103 (1873).

Adult. Entire upper surface bright grass-green, more vivid on the forehead, eyebrow, and sides of the face; quills blackish, margined with the same green as the back; tail greenish, duller than the back, but rather brighter on the margins of the quills; chin and a narrow moustachial streak white; throat crimson, inclining to greyish on the sides of the lower part; below the throat a small whitish space; rest of under-surface whitish washed with yellow, especially on the abdomen, flanks, and under tail-coverts; sides of breast green; on the lower flanks a tuft of pink feathers; under wing-coverts yellowish, inclining to white on the margin of the wing; "bill above horny red, below pale crimson; legs and feet reddish brown, sometimes flesh-coloured or purplish horn; iris very pale grey" (*Gosse*). Total length 3·7 inches, culmen 0·75, wing 1·85, tail 1·5, tarsus 0·55.

Female. "Sexes exactly alike" (*Gosse*).

Young. Some young birds examined by Dr. Bryant (*l. c.*) appeared to want the brilliant colours of the adult.

A specimen from Jamaica, presented to the Museum by Captain Hamilton, differs from other examples from the same island in having rather a longer beak, in having the breast suffused with bright yellowish green right across, and in having a decidedly bluish shade at the terminal end of the moustache. Another example, received from Mr. Gould, agrees with this; and as the white margins to the throat-spot are nearly obsolete in the former examples, the differences in the plumage may be due to the breeding-season.

Specimens examined.

E. Mus. Brit.—*a, ad.* Jamaica. *b, c, ad.* Moneague, Jamaica (*Dr. Henry Bryant*). *d, ad.* Jamaica (*Capt. Hamilton*).

E. Mus. P. L. Sclater.—*a, ad.* Jamaica (*Bryant*). *b,* ♂.

Jamaica, Jan. 1859 (*Osburn*). *c.* Jamaica (*Lawrence*). *d.* Jamaica (*Chambers*).

E. Mus. Salvin and Godman.—a, b, c. Moneague, Jamaica (*O. S. & F. G.*). *d,* ♂. Metcalf Parish, Jamaica (*G. N. Allen*).

2. TODUS SUBULATUS. (Plate XIII. figs. 1, 2.)

Le Todier de St.-Domingue, Buff. Pl. Enl. 585. figs. 1, 2 (1783).

Todus viridis, Vieill. N. Dict. xxxiv. p. 184, pl. 29. fig. 4 (1819), nec Linn.; Bonn. et Vieill. Enc. Méth. i. p. 269 (1823).

Todus subulatus, Gray & Mitch. Gen. B. i. p. 63, pl. 22 (April 1847); Bp. Consp. i. p. 182 (1850); Gray, Hand-l. B. i. p. 79 (1869).

Todus dominicensis, Lafr. R. Z. 1847, p. 331; Sallé, P. Z. S. 1857, p. 233; Cab. & Heine, Mus. Hein. Th. ii. p. 49 (1859–60); Bryant, Proc. Bost. Soc. N. H. xi. p. 91 (1866); Scl. & Salv. Nomencl. Av. Neotr. p. 103 (1873).

Todus angustirostris, Lafr. R. Z. 1851, p. 478; Gray, Hand-l. i. 79.

Adult male. Above deep grass-green, brighter on the head and sides of face; quills brownish black, margined with the same green as the back, rather brighter on the secondaries; tail green, rather duller than the back; chin and a moustachial streak whitish, the latter shading off into ashy grey; throat pale carmine, the feathers bordered with silvery white; rest of undersurface white tinged with light yellow, very bright on the under tail-coverts; the breast white, with a narrow pink edging, causing an ocellated appearance; flanks and sides of body beautiful pink; thigh-feathers yellowish, under wing-coverts light yellow, inclining to white on the outer margins. Total length 4·4 inches, culmen 0·8, wing 1·95, tail 1·65, tarsus 0·55.

Another bird is marked a female by Mr. George Gray, though there is no trace in the register of the bird's sex having been determined by Mr. Cuming*. This bird differs from the one above described in the colouring of the undersurface, which is white, tinged with yellow on the middle of the abdomen and under tail-coverts; the throat is pale carmine-pink, very thickly clouded with white margins to the feathers; and the pink on the flanks is not nearly so much developed as in the male. I should not have doubted the sexual determination of the female, had it not been for a third specimen, also procured from Mr. Cuming at the same time as the others. This bird is pure white underneath, excepting the under wing- and tail-coverts, which are yellow, and the pink flanks and throat-spot. It has a very narrow and slender bill, and is the *Todus angustirostris* of the 'Hand-list.' Beyond this character and the white undersurface, the bird agrees with *T. subulatus*; and my idea is that *T. angustirostris* is the female, and that the intermediate Cumingian specimen is the young male. The bird is a connecting link between the two extremes, being intermediate in size of bill and length of wing. Should my suggestion prove correct, the following measurements may be compared:—

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* [Were not these specimens really collected by M. Sallé, of whose collections Mr. Cuming probably had the disposal? The name of the person from whom the specimen was acquired, entered in the British-

S. Domingo (*Cuming*).	Tot. length.	Wing.	Breadth of bill at nostril.
a. ♂ ad. [?]	4·4	1·95	0·2
b. ♀ ad. [?]	3·7	1·75	0·18
c. ♂ juv. [?]	4·1	1·85	0.2

Sexual difference may account for the length of bill in the Jamaican *T. viridis* referred to above; the variation of bill is illustrated in the plate, which represents the two specimens in the Museum, one of which (fig. 2) I consider to answer to *T. angustirostris* of Lafresnaye.

Specimens examined.

E. Mus. Brit.—a, b, c, ad. juv. S. Domingo (*H. Cuming*).
E. Mus. P. L. Sclater.—a, ad. S. Domingo (*Sallé*).

3. Todus multicolor.

Todus multicolor, Gould, Icon. Av. pl. 2 (1837); D'Orb.

Museum Register, according to the custom of that time, would be that of the collector's agent and not that of the collector himself.—Ed.]

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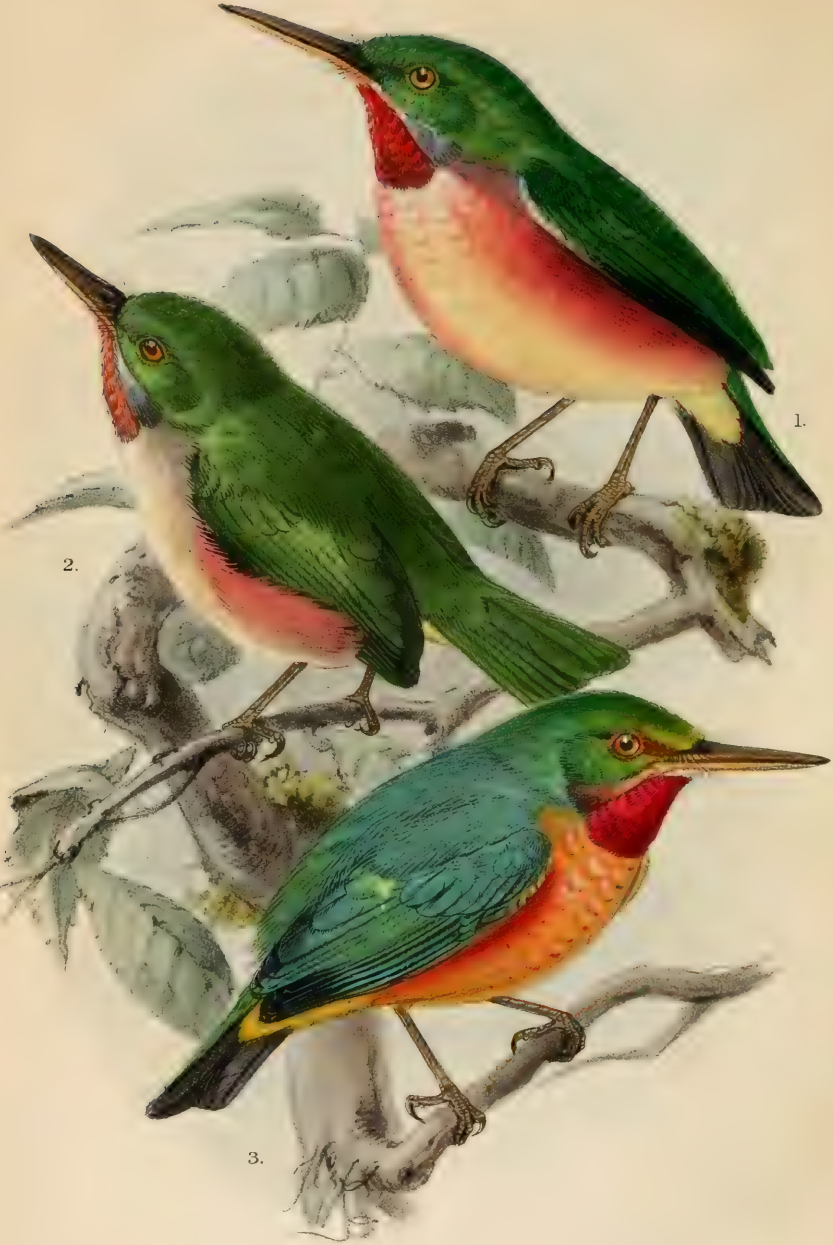

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1. 2. TODUS SUBULATUS.
3 ———— PULCHERRIMUS.

in Ramon de la Sagra, H. N. Cuba, Ois. p. 132, pl. xxii. (1839); Gray, Cat. Fissir. B. M. p. 36 (1848); Bp. Consp. i. p. 182 (1850); Gundl. J. f. O. 1856, p. 101, 1859, p. 347, 1861, pp. 334, 414, 1862, p. 189; Gray, Hand-l. B. i. p. 79 (1869); Gundl. J. f. O. 1871, p. 288.

Todus portoricensis, Less. Ann. Sc. Nat. xi. p. 167 (1838); Lafr. R. Z. 1847, p. 332; Gray, Gen. B. i. p. 63 (1847); Lembeye, Aves d. Cuba, p. 131 (1850).

Adult. Above grass-green, the forehead and lores yellowish, the eyebrow and sides of face brighter green than the back; quills dusky brown, margined with the same green as the back, rather brighter on the secondaries; the outer wing-coverts with a slight tinge of blue; tail dull green; a broad moustache pure white shading off into verditer blue and forming a distinct spot; throat carmine, with very slight margins of silvery white to some of the feathers; rest of undersurface white, margins of some of the breast-feathers slightly washed with pink; the flanks pink; sides of upper breast greyish; under tail- and wing-coverts yellowish, the outermost of the latter white, those on the bend of the wing slightly washed with blue; bill and feet coral-red, the upper mandible brown; iris greyish blue; upper eyelid orange. Total length 3·6 inches, culmen 0·75, wing 1·7, tail 1·3, tarsus 0·55.

Hab. Cuba.

The bright blue neck-spot is the chief distinguishing character of this species.

Specimens examined.

E. Mus. Brit.—a, ad. Cuba (*Baron Laugier de Chartrouse*).

E. Mus. Salvin and Godman.—a, ♂ ad. Cuba (*G. N. Lawrence*). *b, ad.* Cuba (*G. N. Lawrence*).

E. Mus. P. L. Sclater.—a, ad. Cuba (*G. N. Lawrence*).

4. Todus pulcherrimus, sp. n. (Plate XIII. fig. 3.)

Above bluish-green, rather tinged with olive on the lower back, the wing-coverts showing a very strongly pronounced blue shade; quills blackish, bordered narrowly with light green, shading off into bluish towards the tips of the secondaries; tail dull greenish, with narrow margins of bluish green; forehead lighter and rather more olive-green than the back, and tinged with orange near the base of the beak; lores tinged with orange; sides of face yellowish green; sides of neck dull rufous; chin white; throat bright carmine, with silvery white margins to most of the feathers; rest of under-surface with a light crimson blush, varied on the breast with white oval spots to the feathers, producing an ocellated appearance, the crimson colour brightest on the flanks, shading off into ochraceous buff on the sides of the vent; on each side of the upper breast a patch of greenish; under wing-coverts ochraceous buff, the outermost smaller coverts washed with pale carmine; upper mandible blackish, lower one yellowish; feet black. Total length 3·5 inches, culmen 0·85, wing 1·9, tail 1·4, tarsus 0·65.

Hab. Jamaica [?].

This new species comes nearest to *T. subulatus* of S. Domingo, having, like that species, the white ocellations on the breast; but it differs from that bird and all other members of the genus by its brilliant coloration below, and by its being bluish green above.

The type is in the British Museum.

5. Todus hypochondriacus.

Todus viridis, Desm. H. N. Tang. &c. pl. 67 (nec Linn.); Vieill. Gal. Ois. i. pl. cxxiv. (1825).

Todus mexicanus, Less. Ann. Sc. Nat. xi. p. 167; Lafr. R. Z. 1847, p. 333; Gray, Gen. B. i. p. 63 (1847); id. Cat. Fissir. B. M. p. 36 (1848); Bp. Consp. i. p. 182 (1850), Baird, Ibis, 1867, p. 260; Gray, Hand-l. B. i. p. 79 (1869).

Todus hypochondriacus, Bryant, Proc. Bost. Soc. N. H. xi. p. 39 (1866); Scl. & Salv. Nomencl. Av. Neotr. p. 103 (1873).

Adult. Above grass-green, brighter on sides of face and over the eye; forehead and lores tinged with yellow; quills blackish, margined with the green of the back, the secondaries almost entirely of the latter colour; tail green, rather duller than the back; chin white; throat very brilliant crimson, with slight silvery white margins; below the throat a small line of white; moustachial streak white, shading off into ashy grey on the sides of the neck, which, like the chest, are entirely ashy grey; rest of undersurface yellow, whitish in centre of breast; flanks and under tail-coverts entirely yellow; sides of upper breast greenish; under wing-coverts yellowish white, the outermost entirely white, with a small dusky patch near outer margin. Total length 3·7 inches, culmen 0·9, wing 1·85, tail 1·3, tarsus 0·55.

This species is easily recognized by its grey breast and yellow flanks. I do not adopt Lesson's title of *mexicanus* for this bird, although the oldest, as it only misleads. The British Museum contains a specimen, bought at the sale of the collection of the late Baron Laugier de Chartrouse, said to be from Mexico, which agrees with Dr. Bryant's specimens from Porto Rico.

Specimens examined.

E. Mus. Brit.—a, ad. Porto Rico (*Bryant*). *b.* "Mexico."

E. Mus. P. L. Sclater.—a, ad. Porto Rico (*Bryant*). *b, ad.* Porto Rico (*Latimer*).

E. Mus. Salvin and Godman.—a, ad. Porto Rico (*George Swift*).

XXXVIII.—*List of Birds collected or observed during a journey into the Matabili Country in* 1873. By T. E. Buckley, F.Z.S. &c.

Before proceeding with my list, it may be as well to write a short account of our journey and the line of country traversed.

We left Pietermaritzburg with our waggons on the 13th of May, and arrived at Newcastle, distant 160 miles, about the end of the month. Newcastle is a small town near the borders of the colony, and probably derives it name from the fact of coal being found close by. Except on the coast-line, Natal is almost wholly open country, patches of bush, some large, but mostly small, occurring here and there on the slopes of the valleys. Here our troubles began, as our two natives had only been hired for that distance, and would go no further; however, having by this time learnt something of "inspanning" bullocks, we, with our white driver, an Englishman, pushed on by ourselves. At the foot of the Berg, as the Drakenberg is generally called, we found a small Kafir boy, who had run away from a Dutchman; him we pressed into our service, crossed the ridge, and soon after entered the Transvaal. Here we unfortunately lost our bullocks for eight days; and as we were out of the game-country, and there were very few birds indeed, our situation was by no means enviable; fuel, which consisted of dried bullock-dung, was scarce, and the nights piercingly cold, accompanied by frost and ice. During this time we had offered a reward for the oxen; and one evening, to our intense delight, they made their appearance, and we soon left the scene of our misfortunes behind. In two or three days, during which time we did a little shooting, we crossed the Vaal river at a place called Stander's Drift, and at length, on the 28th of June, reached Pretoria, the capital of Transvaal, without further mishap than the loss of four bullocks, and one stick-fast, when we had to "off-load" the waggon.

The part of the Transvaal through which we had travelled, is what is called the "High Veldt;" it is an undulating plain, in the summer covered with grass, but no trees, except a few that have been planted round the farm-houses; but once having passed Pretoria you enter the bush. We left that town on the night of the 30th of June, crossed the Limpopo, or rather the Crocodile (as it does not rejoice in the name of Limpopo until after it is joined by the Marico), and took a north-westerly direction across the Pilansberg until we again joined the Crocodile river; we soon after crossed the Marico, a small river with very sloping banks, and altogether an extremely bad drift for waggons, followed the Limpopo for about two more days, and then, leaving the river, steered for Bamangwato, which we reached towards the end of July. Here we stayed for a few days, getting fresh bullocks and laying in some necessary stores, and again set out in the first week in August for the Matabili country. We had at first intended to go to Lake N'gami; but we found at Bamangwato that, on account of the want of water, with our tired bullocks and inexperience of the country, it would be madness to attempt it; so we agreed to try the Matabili country instead. At this place we luckily engaged a boy to go with us—a very necessary precaution, as, although the road in most places is well defined, yet, unless you have some one who knows the water-holes, you may often run very short of that necessary article. All the rivers from here to beyond the Tatti, which is the supposed boundary between the Bamangwato and Matabili countries, are sand-rivers, and water is very often only to be had by digging. At a place called Serule we heard from some Dutchmen there was a short cut thence to the place we wished to go to; so we tried it; but on arriving at a river called the Mackloetze, we heard from the natives that we had great danger of getting into the "fly" (that is, places infested by the "tsetsi)," so turned back and went by the regular route to the Tatti. We met with the greatest kindness here from Mr. Neilson, the manager of the Gold-fields, and Mr. Brown, both of whom helped us with bullocks and gave us every assistance and advice. We left the Tatti on the 1st of September, and at last arrived at the Samouqui river, where we made our camp, as this was our furthest point. We stayed here some three weeks, hunting and collecting, and returned early in October, going back by the same route that we came.

I was very much disappointed as to the birds; they were few in number; and (although I might have got more, especially among the Warblers and smaller Finches) yet, I think, the collection I brought back will be found by any future traveller over the same ground to be fairly comprehensive. Want of water is, of course, the chief reason of this paucity of animal life; for the same remarks will apply to insects, the only one that was seen in any great abundance being a species of beetle.

For the benefit of any member of the British Ornithologists' Union who may intend to visit these parts, I here give a list of the rivers crossed, and where water may be found during the end of winter (that is, about August):—Mahalapse, water above and below the road, easily got by cleaning out the old holes; Meathly and Towanni, the same, but in the former the water lies rather deeper; Lotsani, uncertain, and not to be got by digging, just before we were there a shower had filled up one or two holes; Palatzi, a water-hole below the road, also uncertain; Serule, generally water, but at a great depth, it has a most unpleasant smell, which seems to go off after a time; Gooqui, water close to the road; Lotlakani, no water; Skribe, Mackloetze, and Shashai, water to be had easily by digging; Tatti, water some distance down the river from the road; Ramaqueban, water near the road, to be had by digging; Imquisi, water to be got by digging, but rather deep; Dry River, water very deep down, we got ours out of some holes dug by elephants; Samouqui, water in plenty.

The nomenclature adopted for the Accipitres is that of Mr. Sharpe's recently published 'Catalogue of Birds in the British Museum, vol. i. (1874): that for the other families is taken from the same gentleman's 'Catalogue of African Birds' (1871), or Mr. Layard's 'Birds of South Africa' (1867), unless stated to the contrary.

GYPS KOLBII (Daud.).

Not a very common species, and I never saw more than a pair together. They frequent wooded districts and breed in trees. After much difficulty and tearing my cloths and hands, I took an egg out of a large nest in a mimosa-tree from which the hen flew off. I fired at her, but, as she went some distance before dropping, I did not get her. The egg resembles that of *V. cinereus*.

GYPS RUEPPELLI, Brehm.

Extremely common from Natal up to the Matabili country. On the high veldt of the Transvaal they seem to understand that the report of a rifle means something to eat; and while skinning an animal I have had a cloud of these birds waiting about one hundred yards off until I finished and left them the carcass.

NEOPHRON PERCNOPTERUS (L.).

I saw a few of these birds; but they were very scarce in comparison with the Griffons.

Serpentarius secretarius (Scop.).

I only met with this bird on two or three occasions in the Transvaal; and I saw one pair near the Limpopo.

Circus ranivorus (Daud.).

♀. Natal, May 21st, 1873.

♀. Pietermaritzburg, April 22nd, 1873.

Beak horn-colour; legs yellow; iris light yellow. The second female had the beak black; legs yellow; iris hazel.

Common through Natal and the Transvaal in the open country, frequenting both marsh and high ground. Its flight and habits resemble those of our Hen-Harrier. There seems to be no difference in the plumage of the sexes; at least I never saw a white male.

Melierax canorus (Risl.).

a, b, ♂, ♀. Transvaal, July 10th 1873.

Cere, gape, and base of bill orange-red, the rest of the latter black; feet orange-red; iris dark hazel.

Very common in the low bushy parts of the Transvaal. I have seen them hunting quite late in the evening, flying low over the ground with a dashing sort of flight, when they have the appearance of a large male *Circus cyaneus*. One of the specimens I procured was very tame, allowing me to walk up and shoot it off a tree.

Melierax gabar (Daud.).

♂, *adult*. Transvaal, July 5th, 1873.

Cere red, rest of beak black; legs orange-red; iris dark hazel.

♂, *young*. Transvaal, July 5th, 1873.

Cere red, rest of beak black; legs orange-red; iris light yellow.

♀, *in moult*. Transvaal, November 29th, 1873.

A common Hawk throughout the Transvaal after entering the bush-country. Its flight resembles that of *Accipiter nisus*.

Melierax niger (Bonn. & Vieill.).

This bird I only saw twice—once on the Limpopo, and once in the Bamangwato district; on both occasions it was flying with great swiftness.

HELOTARSUS ECAUDATUS (Daud.).

This seemed to be the commonest Eagle from the Limpopo to the Matabili country; but it was very shy, and I never could obtain a specimen. Its flight is very graceful, soaring about without much movement of the wings; its black body, with the white underneath the wings, and bright red legs, make it a very conspicuous object when flying.

HALIAETUS VOCIFER (Daud.).

I saw one or two pairs on the Limpopo, when they appeared to be breeding; but they were not common; they seem to be much more abundant in the Zulu country.

MILVUS MIGRANS (Bodd.) et auctt. recc.

M. korschun (Gm.), Sharpe, Cat. B. i. p. p. 322*.

Very common through the Bamangwato and Matabili country; but it is not until the rainy season that they appear in any numbers. We saw an immense quantity one day in November, after a heavy shower of rain, together with a few Buzzards, feeding on the swarms of young locusts which covered the ground.

ELANUS CÆRULEUS (Desf.).

Fairly common in Natal. I saw several pairs one day along the banks of the Mooi river; but they would not allow of an approach within gun-shot.

FALCO BIARMICUS (Temm.).

By no means common. One specimen was procured in Natal; and I saw another pair one morning in the Transvaal. These latter were remarkably tame; but as I had only a rifle with me, I did not fire.

TINNUNCULUS RUPICOLA (Daud.).

Cerchneis rupicola, Sharpe, Cat. B. i. p. 429†.

♂. River Tugela, Natal, May 21st, 1873.

Beak horn-colour; legs yellow; iris dark hazel.

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* [As J. F. Gmelin's title *korschun* cannot with certainty be applied to this Kite, or any other Hawk, Boddaert's name, by which the Black Kite is known to nearly all modern writers, had best be adhered to.—ED.]

† [Mr. Sharpe states that *Falco columbarius* is the type of Vieillot's genus *Tinnunculus*. This is not necessarily the case, as *Falco sparverius* has equal claim. As Vieillot called both birds Cresserelles, and used Lin-

Common through Natal and the Transvaal. In flight and habits it resembles the common Kestrel.

Tinnunculus tinnunculoides (Temm.).

Cerchneis naumanni, Sharpe, Cat. B. i. p. 435*.

♂. Limpopo, November 14, 1873.

Beak horn-colour; legs dark yellow; iris dark hazel.

Carine perlata (Vieill.).

Athene perlata, Gurn. And. B. Damara Land, p. 37.

Athene licua, Licht.; Layard, B. S. Afr. p. 38.

♂. Tatti, Matabili-land, September 1st, 1873.

Common from the north of Pretoria into the Matabili country. Their flight resembles that of a Woodpecker.

Otus capensis (Smith); Layard, B. S. Afr. p. 43.

a, ♂. Natal, May 25th, 1873.

b, ♀. Transvaal, June 8th, 1873.

Beak black; iris dark hazel.

Quite the commonest Owl in Natal and the Transvaal. Like our own Short-eared Owl, this species, when disturbed during the daytime, flies well; but it is not until just about dark that it comes forth of its own accord. Almost any evening it might be seen hunting over ground intersected by a "spruit;" this it seems to prefer marshy ground. I never heard it utter any cry. Its flight resembles that of the common Short-eared Owl. This species was not observed north of Pretoria.

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næus's specific name of the Kestrel for the genus, there can be no doubt the generic name *Tinnunculus* should be applied to the Kestrels with *T. sparverius* as the type.—Ed.]

* [Mr. Sharpe's sole authority for employing this name rests on a footnote in Naumann's Naturg. der Vög. Deutschl. i. p. 318, where we find it said "*Cenchris.* Emerillon roux. Der kleinste rothe Falke. Frisch Vögel. t. 89.=Sylvan, v. Laurop und Fischer, Jahrg. 1818. S. unter dem Nahmen Falco Naumanni v. G. Fleischer." From this it would appear that not even Naumann himself had consulted this obscure periodical.

Temminck's name *tinnunculoides* (1820) is the oldest certainly applicable to the Lesser Kestrel. Those who cannot bring themselves to use this word in connexion with the generic name *Tinnunculus* can take Naumann's title *Cenchris.*—Ed.].

Strix capensis, Smith.

♂. Transvaal, June 8th, 1873.

Beak ivory-white; iris dark hazel.

I only procured this one example, which was shot by my friend in a marsh among some long reeds.

Bubo verreauxi, Bp.

♀. Limpopo, July 22nd, 1873.

Beak ivory-white; iris dark hazel, with a narrow orange-red rim round.

This fine Owl is very common from the Transvaal as far as the Matibili land, haunting the sides of rivers, away from which localities I never saw it. These Owls generally go in pairs; but I once saw five together, out of which I procured my specimen: after the first disturbance they get more wary. I fancy they breed in old nests of other birds, as I once saw an Owl sitting in one.

Strix poensis, Fras.; Gurney, in Anderss. B. Damara Land, p. 36.

♂. Palatzi, Bamangwato, October 20, 1873.

Beak white; iris dark hazel.

This specimen, which was shot by my companion among some trees near a water-hole, was the only one seen.

Ephialtes leucotis (Temm.).

♀. Serule, Bamangwato, August 23rd, 1873.

Beak yellowish white; iris deep orange.

Not a very common species, I imagine, hereabouts, as this was the only one seen. It was sitting among some small mimosa trees, and from its very upright position, when at rest, was very difficult to distinguish from the stump of a branch.

Caprimulgus rufigena, Smith.

♂. Bamangwato, October 13th, 1873.

Beak black; legs flesh-colour; iris dark hazel.

This is the only species of Goatsucker we obtained; and it was common from the Limpopo, where we only found it in the rainy season, far into the Matabili country. It has a jarring note, like *C. europæus*, and is fond of settling in the paths. It roosts on the ground during the day. I once found two eggs of this species on the bare ground in an open space in the bush; the bird was on the eggs, which were pink, spotted all over with greyish brown.

MEROPS APIASTER, L.

♂. River Meathly, Bamangwato, October 24, 1873.

Beak black; legs dark brown; iris crimson.

This species was only observed on one occasion, when it appeared to be migrating. On that day I saw several large flocks hawking about after flies and occasionally settling on the small bushes. The note of all the Bee-eaters I have met with seems to be almost exactly the same.

MEROPS PUSILLUS (Müll.).

♂. Transvaal, November 29th, 1873.

Beak and legs black; iris dark hazel.

I saw one or two pairs of this species on the banks of the Limpopo on my way up, and another pair or two on the Samouqui river, in the Matabili country. They were plentiful in comparatively open country in the north of the Transvaal on our way down, and were to be seen sitting, singly or in pairs, on a small branch of a bush on the look-out for insects, which they caught on the wing. I once saw a small party of about eight together.

MEROPS BULLOCKOIDES, Smith.

♂. Transvaal, July 1st, 1873.

Beak and legs black; iris dark hazel.

Common through the north of Transvaal. On my return I found them breeding in the banks of the Limpopo, perhaps seven or eight pairs in one colony.

CORACIAS NÆVIA, Daud.

♂. Matabili, October 6th, 1873.

♀. Transvaal, July 1st, 1873.

Beak black; Legs yellow; iris dark hazel.

Fairly common; generally seen singly or in pairs. It resembles *C. caudata* in its habits and flight. I have seen the young of the latter about the middle of November, evidently not long out of the nest; so the Rollers must be amongst the earliest breeders.

CORACIAS CAUDATA, V.

♂. Transvaal, July 7th 1873.

Beak black; legs yellow; iris dark hazel.

First observed a few days north of Pretoria, and found far up in the Matabili country. This species is extremely shy, and it was difficult to procure specimens. Just before the breeding-season they fly high up in the air, rolling about from side to side, and uttering a harsh note all the time, settling afterwards on the very top of the nearest high tree. In the Matabili country this is a royal bird, and no one except the king is allowed to wear its feathers.

CORYTHORNIS CYANOSTIGMA (Rüpp.).

♀. Transvaal, June 19th, 1873.

Beak and legs red; iris dark hazel.

Common throughout Natal and the Transvaal, frequenting pools and streams, but always singly; when wounded they swim fairly well.

CERYLE RUDIS (L.).

♂. Natal, June 1st, 1873.

Beak black; legs black; iris dark hazel.

This bird is pretty common in Natal, but much more so on the Limpopo, in the north of the Transvaal, where I found its nest in a hole of the bank, but as the ground was hard, I was unable to get the eggs. Its absence from the Matabili country is accounted for by the rivers being mostly sand-rivers in the part of the country I visited. When hunting, it hovers over the water with a quick action of the wings. Its cry is shrill and often repeated.

HALCYON ALBIVENTRIS (Scop.).

Beak and legs red; iris dark hazel.

Very common along the rivers north of Pretoria, though seen to wander some distance from water. This species was breeding along the banks of the Limpopo in November; and my driver brought me in three eggs which he had dug out of a bank, having caught the old bird on her nest. Judging from the mud on the bills of those I shot, they must pick up their food from the ground as well as off trees.

HALCYON CHELICUTENSIS (Stanl.).

♂. Transvaal, July 13th, 1873.

Beak and legs red; iris dark hazel.

HALCYON CYANOLEUCA (V.).

♂, ♀. Limpopo, November 1873.

Upper mandible red, lower mandible black; legs black, inside of foot reddish; iris dark hazel.

Very common during our journey down in the summer, but not seen in the winter. It is rather a shy bird, and continually utters a monotonous whistle. I did not meet with this species, except on the Limpopo, where these birds are most conspicuous objects when on the wing.

TOCCUS NASUTUS (L.).

a, ♂ ad. Limpopo, November 12, 1873.

Beak black, with a white streak on upper mandible; legs dark olive brown; iris dark hazel.

b, ♂ juv. Bamangwato, August 7th, 1873.

Beak white above, black below, yellowish red at the tip of both mandibles; legs black; iris reddish brown.

TOCCUS ERYTHRORHYNCHUS (Gm.).

a, ♀. Matabili, September 5th, 1873.

Beak red; legs black; iris light yellow.

TOCCUS FLAVIROSTRIS (Rüpp.).

a, *b*, ♂ ♀. Transvaal, July 7th, 1873.

Beak yellow; legs black; iris yellowish white.

Hornbills were very common from the north of the Transvaal through the Bamangwato country. All the three species above mentioned were shot at random from among the numbers noticed; and I should say they were all equally plentiful. My experience agrees with Andersson's excellent account of these Hornbills (B. Dam. Ld. p. 207, *et seq.*).

UPUPA MINOR, Gm.

♂. Transvaal, July 6th, 1873.

Beak and legs black; iris dark hazel.

Common in the bush country north of Pretoria; but I do not remember seeing it further than Bamangwato. It is rather a shy bird, the note and habits being the same as those of *U. epops*.

Irrisor cyanomelas, V.

♂. Bamangwato, August 5th, 1873.

Beak and legs black; iris dark hazel.

Fairly common through the Bamangwato and Matabili countries; and I fancy I have seen it along the Limpopo river. A good account of its habits will be found in Andersson's 'Birds of Damara Land.'

Schizorhis concolor (Sw.).

a, ♀. Transvaal, July 1st, 1873.

Beak and legs black; iris dark hazel.

A very common species throughout the Transvaal and up to the Matabili country. They go about in small flocks; and their peculiar cry, something like the mewing of a cat, often betrays their presence. They often raise and lower the crest, and are not very easy to see by reason of their colour.

Centropus senegalensis (L.); Sharpe, P.Z.S. 1873, p. 617.

♂. River Palatzi, Bamangwato, October 20th, 1873.

Beak black; legs dark grey; iris crimson.

First observed on the Crocodile river, but was also found in all suitable places as far into the Matabili as I went. Being fond of hiding itself, it is not often seen unless accidentally flushed; but its loud note betrays its presence. It inhabits the thick reeds and bushes wherever there is water, far from which it is never found.

Centropus superciliosus, H. & E.; Sharpe, P. Z. S. 1873, p. 620.

♂. Transvaal, July 5th, 1873.

Beak and legs black; iris dark red.

I confounded this species with *C. senegalensis*, its note, and, as far as I know, its habits and localities being the same as those of that bird.

Cuculus gularis (Steph.); Sharpe, P. Z. S. 1873, p. 585.

♂. River Meathly, Bamangwato, October 24th, 1873.

The tip and most of upper mandible black, the rest orange-yellow; legs chrome-yellow; iris dead gold; cere yellow.

Only observed in this place, but was probably migrating. It is shy and restless, continually flying from one tree to another, generally in the same line of flight. It flies like our common Cuckoo, but rather more deliberately; its note, too, in the same manner, is more slowly uttered, the first syllable not being in such a high key.

Cuculus clamosus, Lath.; Sharpe, P. Z. S. 1873, p. 587.

a, ♂. Bamangwato, November 6th, 1873.

Beak and legs black; iris dark hazel.

A common species through Bamangwato and the Transvaal. Its note may be heard almost any time of the day or night.

Cuculus cupreus, Bodd.; Sharpe, P. Z. S. 1873, p. 591.

♂. Bamangwato, river Towanni, October 23rd, 1873.

Beak black; legs brownish black; iris dark red.

Very commonly seen during our return journey, from which it appears the bird is a summer visitant. I found it throughout the Bamangwato and North Transvaal districts.

Coccystes jacobinus (Bodd.); Sharpe, P.Z.S. 1873, p. 597.

a, ♀. Limpopo, November 15th, 1873.

Beak black; legs lead-colour; iris dark hazel.

b, ♂. Transvaal, November 20th, 1873.

Beak and legs black.

Very common, but a summer bird, as we only saw it on our way down.

Pogonorhynchus leucomelas (Bodd.); Marshall, Monogr. Capit. pl. 12.

♂. Transvaal, July 10th, 1873.

Beak and legs black; iris dark hazel.

Found from the north of the Transvaal into the Matabili country. These Barbets were first seen about the trees in Pretoria.

Pogonorhynchus torquatus (Dumont); Marshall, Monogr. Capit. pl. x.

♂. Transvaal, July 2nd, 1873.

Beak black; legs black; iris dark hazel.

This specimen was shot by my companion close to the Limpopo, near Pretoria; and as it was the only one obtained, it must be, there at least, a rare bird.

TRACHYPHONUS CAFER (V.); Marshall, Monogr. Capit. pl. lvi.

a, ♂. Transvaal, July 8th, 1873.

Beak greenish yellow; legs black; iris dark red.

b, ♀. Limpopo river, November 15th, 1873.

Beak greenish yellow; legs lead-colour; iris reddish.

This species is very common north of Pretoria, all along the Limpopo river; but I did not observe it beyond Bamangwato. It creeps along the boughs of the trees like a Woodpecker, for which I often mistook it; it is by no means a shy bird.

INDICATOR SPARRMANNI, Steph.

a, ♂. Limpopo, November 16th, 1873.

Bill whitish; legs lead-colour; iris dark yellow.

Found from the north of the Transvaal to the Matabili country. Extremely pertinacious in its habit of following one in order to conduct to a bee's nest, chattering incessantly until it gains its point or is knocked over with the gun. The natives, however, strongly object to their being shot.

DENDROBATES NAMAQUUS (Licht.).

♂. Transvaal, July 7th, 1873.

Beak and legs black; iris dark red.

This was one of a pair that were making their nest; they were very tame.

DENDROBATES CARDINALIS (Gm.).

a, ♂. Bamangwato, November 5th, 1873.

Beak black; legs bluish grey; iris dark red.

b, ♂. Transvaal, July 3, 1873.

Beak and legs black; iris dark red.

DENDROPICUS HARTLAUBI, Malh.

a, ♀. Natal, May 22, 1873.

Beak black; legs greenish grey; iris dark red.

GEOCOLAPTES OLIVACEUS (Lath.).

♂. Natal, May 19th, 1873.

♀. Transvaal, July 8th, 1873.

Beak and legs black; iris orange. The female has the iris dark red.

Common in Natal, frequenting the open hills and sitting among the stones. I never noticed it among trees. These birds generally go about in parties of six or seven, probably the old birds and their young.

PSITTACUS MEYERI (Rüpp.).

♂. Matabili, September 7th 1873.

Beak and legs black; iris brown.

This was the only Parrot seen during the journey. It is common from the north-west of the Transvaal to the Matabili country. These birds are seen either in pairs or small parties, and are not shy. Their cry is a very shrill note, repeated several times, and generally uttered when flying; their flight is extremely rapid, during which time the blue on the rump is very conspicuous.

TURDUS LITSITSIRUPA, Smith.

♀. Transvaal, July 2nd, 1873.

Lower part of under mandible yellowish, the rest dark horn-colour; legs light brown; iris dark hazel.

Not very often seen by me, but, from its retiring ways, may be commoner than it appeared.

PYCNONOTUS NIGRICANS (V.).

Transvaal, July 2nd, 1873.

Beak and legs black; iris dark claret.

Common throughout the country. There seem to be two sorts, one with a flesh-coloured cere round the eye. These birds generally go in small parties.

MONTICOLA RUPESTRIS (Cuv.).

a, ♀. Natal, May 18th, 1873.

Bill and legs black; iris dark hazel.

Common throughout Natal, where it may be seen sitting on stones by the roadsides, in pairs or families. In its flight and habit of flirting its tail it resembles the Wheatear.

CRATEROPUS BICOLOR (Jard.).

♀. Bamangwato, October 16th, 1873.

Beak and legs black; iris reddish orange.

Common throughout the north of the Transvaal into the Matabili country, and first met with at Eland's river. The habits of this and of *C. jardinii* are similar. They go in flocks from tree to tree, following each other almost in single file. When one commences its peculiar sort of chuckling note, it is followed by the others, the noise increasing until it is almost deafening. They creep about the bushes with wonderful care; and if a wounded one gets into a tree, it is extremely difficult to retrieve it. They have a skimming sort of flight.

CRATEROPUS JARDINII, Smith.

♀. Transvaal, July 3rd, 1873.

Beak and legs black; iris yellow with a black rim.

The description of the habits of *C. bicolor* will answer equally for this species. I took a nest of this bird on the banks of the Limpopo, on the 23rd of November. It contained but one egg; but the parent bird was close to the nest, which was about the size of a Blackbird's, deep and coarsely lined, and placed in a small but very thorny tree. The eggs were of a blue colour, like a Thrush's, without spots.

COSSYPHA CAFFRA (L.).

♀. Transvaal, July 2nd, 1873.

Beak black; legs black; iris dark hazel.

COSSYPHA HUMERALIS (Smith).

Bessonornis humeralis (Smith): Layard, B. S. Afr. p. 132.

a, ♂. Makalapse River, Bamangwato, October 25th, 1873.

Beak black; legs brownish black; iris dark hazel.

I observed a pair of these birds on a small stony hill, and procured the male. They were not at all shy; but from the thickness of the cover it was difficult to get far enough off to shoot them without spoiling them. They flew and hopped about the bushes in search of food, but seemed to avoid the open ground.

MYRMECOCICHLA FORMICIVORA (V.).

♂ ♀. Bushman's River, Natal, May 21st, 1873.

Beak and legs black; iris dark hazel.

Common throughout the colony of Natal as well as the Transvaal, sitting about on the small ant-heaps. It resembles *Saxicola monticola* in its habits.

Saxicola monticola, V.
a, ♀. Natal, May 21, 1873.
Bill and feet black.
b, ♂. Transvaal, June 16th, 1873.
Bill and feet black; iris light brown.

Very common throughout the "High Veldt" portion of the Transvaal. They sit in pairs on the small ant-hills, and have a habit, the male more especially, of soaring a short distance and then dropping quite suddenly, sometimes on to the ground, at others to within a short distance, and then skimming along a considerable way. During the breeding-season, as well as during summer or winter, the pair were generally to be seen sitting together.

Saxicola leucomelæna, Burch.
a, ♂. Natal, May 22nd, 1873.
Beak black; legs black; iris dark hazel.

Saxicola familiaris, Steph.
♂. Natal, May 22nd, 1873.

I believe I observed this bird in the Matabili country, hopping about our cattle-kraal like a Robin.

Saxicola pileata (Gm.).
♂. Newcastle, Natal, June 5th, 1873.
Beak and legs black; iris dark hazel.

I found a good number of these birds one day, but those I procured were all males. They have a very pretty song.

Saxicola bifasciata, Temm.
♂. Natal, December 20th, 1873.
Beak and legs black; iris dark hazel.

I saw several pairs of these birds near the foot of the Drakenberg, where they were breeding. Their habits and haunts are like our Stonechat, as far as I had the opportunity of observing them.

BRADYORNIS MARIQUENSIS, Smith.

♂. Bamangwato, August 22nd, 1873.

♀. Transvaal, July 4th, 1873.

Beak and legs black; iris dark hazel.

A common bird throughout the north of the Transvaal. Its habits and appearance resemble those of the Spotted Flycatcher, for which I at first mistook it.

SIGELUS SILENS (Shaw).

♂. Transvaal, July 2nd, 1873.

Beak black; legs black; iris dark hazel.

Common throughout the north-west of the Transvaal, and in the Bamangwato district.

AEDON PŒNA (Smith).

♀. Transvaal, July 3rd, 1873.

Beak and legs black; iris dark hazel.

♀. Bamangwato, November 5th, 1873.

Beak brown; legs light brown; iris hazel.

Common throughout the north of the Transvaal and in the Bamangwato district, where they may be found along the banks of the sand-rivers; they are very tame.

AEDON LEUCOPHRYS (V.).

♂. Bamangwato, October 24th, 1873.

Lower part of under mandible yellowish brown, rest black; legs dark brown; iris dark hazel.

This species is one of the commonest Warblers in the Bamangwato district, and is generally to be seen in pairs. The male has a very pretty song.

CISTICOLA TERRESTRIS, Smith.

a, ♀. Pietermaritzburg, April 30th, 1873.

Iris hazel.

Extremely common throughout Natal and the Transvaal, living among the long dead grass in the open veldt; its flight is weak and jerky, seldom extended far.

DRYMŒCA NATALENSIS, Smith: Layard, B. S. Afr. p. 87.

♂. Pietermaritzburg, Natal, May 2nd, 1873.

Culmen of beak black, the rest yellow; legs light brown; iris dark hazel.

I only observed this one specimen, which I shot among some reeds by a small stream; it was rather shy.

DRYMŒCA CHENIANA, Smith.

a, ♂. Bamangwato, October 6th, 1873.

Beak brown; legs very light brown; iris light hazel.

This specimen agrees best with a Transvaal example of *D. cheniana* in Mr. Sharpe's collection, and is accordingly determined as above. This bird is found in the Matabili country; and, from the date at which it is to be met with, it must be rather independent of water.

DRYMŒCA FASCIOLATA, Smith.

Gooqui, Bamangwato, October 16th, 1873.

Legs light brown.

CAMAROPTERA BREVICAUDATA (Rüpp.).

a, ♂. Limpopo, November 12th, 1873.

Beak black; legs light brown; iris brown.

Shot while flitting about in a tree, much after the manner of our English Willow-Wren.

SYLVIETTA RUFESCENS (V.).

a, ♂. Transvaal, July 1st, 1873.

Beak and legs brown; iris light hazel.

b. Palatzi, Bamangwato, October 20, 1873.

PARUS AFER, Gm.

♂. Matabili, September 28th, 1873.

Beak black; legs lead-colour; iris dark hazel.

A very common species throughout the Matabili and Bamangwato districts. It scarcely seems to creep so much about the trees after food as our English Tits.

PARUS NIGER, V.

a, ♂. Bamangwato, October 18th, 1873.

Beak black; legs lead-colour; iris dark hazel.

COLIUS ERYTHROMELON, V.

a, *b*, ♂ ♀. Transvaal, July 5th, 1873.

Beak red at base, black at tip; orbital space red; legs red; iris dark hazel.

Very common throughout the Transvaal; found in flocks of six or eight or more; they fly with a rapid and straight flight, and, when disturbed, generally all go off together.

NECTARINIA FAMOSA (L.).

♂. Drakenberg, Natal, December 19th, 1873.

Beak and legs black; iris dark hazel.

Only seen in this one place, but most likely a summer visitant. About here I found several pairs living amongst the thick patches of bush along the small streams that run down the side of the Drakenberg. They were restless, but not at all shy.

NECTARINIA BIFASCIATA (Shaw).

a, ♂, *b*, ♀. Towanni River, Bamangwato, October 23, 1873.

Bill black; legs black; iris dark hazel.

Quite the commonest Sun-bird from north of Pretoria into the Matabili country. They were generally to be seen in pairs, or perhaps two cocks chasing a hen. Like all dark-coloured Sun-birds, the beautiful plumage of the male is only to be seen on a near approach. From a specimen I have in my collection it would appear that the male changes from the sober colours of the female into his own lovely hues in October. The habits of all the Sun-birds seem to be similar, very lively and restless, rarely remaining long in one tree, unless attracted by an abundance of flowers, in which no doubt their food is to be found. The males are much shyer than the females. I did not observe this species in Natal.

NECTARINIA GUTTURALIS (L.).

♂. Matabili, October 8th, 1873.

I only met with this bird in the Matabili country about the Imquisi and Samouqui rivers; and even there they were not very abundant. The young male gets the scarlet plumage on the throat first, the feathers of the back being of a light greyish brown.

NECTARINIA TALATALA, Smith.

♂ ♀. Bamangwato, October 1873.

Beak and legs black; iris dark hazel.

Common in the Bamangwato districts, where they are generally to be seen in pairs.

PARISOMA SUBCÆRULEUM (Gm.).

♀. Transvaal, July 3rd, 1873.

Beak black; legs black; iris white.

A very common species from Natal to the Matabili land. It creeps and hops about the bushes, never flying far at a time.

BATIS CAPENSIS (L.), Sharpe, Ibis, 1873, p. 161.

♂. Natal, May 17th, 1873.

Beak and legs black; iris orange.

Only seen on this occasion.

BATIS MOLITOR (Hahn & Küst.), Sharpe, *l. c.* p. 166.

♂. Bamangwato, November 5th, 1873.

Beak and legs black; iris lemon yellow.

A common species from the Transvaal up to the Matabili country. They are generally seen in pairs; and in the stomach of one I found the remains of locusts.

COTYLE PALUDICOLA (V.).

♀. Pietermaritzburg, Natal, May 3rd, 1873.

Beak and legs black; iris dark hazel.

Obtained out of a flock, near a small stream; there is no difference in their appearance from the common Sand Martin.

COTYLE CINCTA (Bodd.).

♂. Drakenberg, Natal, December 19th, 1873.

Beak and legs black; iris dark hazel.

A summer migrant apparently, as I only saw them on our return journey; they were not particularly abundant, a few pairs only being seen together in this one spot.

DICRURUS MUSICUS, V.

♂. Transvaal, July 1st, 1873.

Beak and legs black; iris dark red.

Very common from the north of Pretoria into the Matabili country. It is a bold bird, driving any Crow or bird of prey from its vicinity. This species is an early builder, as I found full-grown young ones in a nest on the 28th of November; the nest was placed in the fork of a branch, and seemed very small for the young birds; the parents sat in the tree close to me while I was inspecting the nest. This birds sits on a branch of a tree, high up, on the look-out for insects, which it catches on the wing and then returns to its perch. They are generally found in pairs.

NILAUS BRUBRU (Lath.).
♂. Matabili, September 29th, 1873.
♂. Shashai, September 13th, 1873.
Beak and legs horn-colour; iris hazel.

The Shashai specimen had the beak and legs black; iris dark hazel.

A common species in the Matabili country.

DRYOSCOPUS CUBLA (Lath.).
a, ♂. Limpopo, November 15th, 1873.
Beak and legs black; iris red.
b, ♂. Matabili, September 22nd, 1873.
Beak blackish grey.

PRIONOPS TALACOMA, Smith.
♀. Transvaal, November 30th, 1873.

Beak black; legs brick-red; iris lemon-yellow; fringe round the eye yellow.

A common species north of Pretoria into the Matabili country. They go in flocks from bush to bush, and feed alike in the trees and on the ground. They are by no means shy.

LANIARIUS SULFUREIPECTUS (Less.).
a, ♂. Limpopo, November 12th, 1873.
Beak black; legs lead-colour; iris dark hazel.

Shot creeping about the bushes on the Limpopo river; tolerably common.

LANIARIUS ATROCOCCINEUS (Burch.).
a, ♀. Bamangwato, August 23rd, 1873.
Beak and legs black; iris dark hazel.

b, ♀. Transvaal, July 16, 1873.

Very common in the bush-country north of Pretoria, up to the Matabili country. Its note and habits were the same as the West-African *L. barbarus.*

LANIUS COLLURIO, L.

♂ ♀. Limpopo, November 1873.

Common south of Bamangwato on our return journey; it is probably only a summer migrant.

LANIUS COLLARIS, Gm.

a, ♂ ad. Pietermaritzberg, May 3, 1873.

Beak and legs black; iris dark hazel.

b, ♂ juv. Transvaal, July 4th, 1873.

TELEPHONUS ERYTHROPTERUS (Shaw).

a, ♂. Bamangwato, August 21st, 1873.

Beak black; legs grey; iris purple.

b, ♀. Gooqui River, Bamangwato, August 25th, 1873.

Soft parts as above.

Fairly common throughout Bamangwato; in its habits it was identical with those I met with on the west coast in Fantee.

The female specimen is in the brown-headed plumage described by Smith as *Telephonus trivirgatus.* She is much smaller than the male; but I could not quite determine whether she belonged to a different species, as I shot both birds in the same country, and their habits were the same.

EUROCEPHALUS ANGUITIMENS, Smith.

♂. Towanni River, Bamangwato, October 23rd, 1873.

Beak black; legs dark brown; iris dark hazel.

Found in the Bamangwato and Matabili countries. I only observed this fine Shrike on two or three occasions; at one time there were three or four of them together, hawking after insects apparently, and returning to the same branch, like a Flycatcher. They were rather shy, and it was some time before I secured one. Their flight is undulating.

UROLESTES CISSOIDES (Licht.).

a, ♀. Transvaal, July 7th, 1873.

Beak and legs black; iris dark hazel.

Very common through the Transvaal. I have often seen as many as ten together in one bush; when flying they look exactly like Magpies.

PHOLIDAUGES VERREAUXI, Bocage.

♂. Gooqui river, Bamangwato, October 16th, 1873.

Beak black; legs brownish black; iris lemon-yellow.

This was the only specimen obtained; and there was only one more seen.

AMYDRUS BICOLOR (Gm.).

♂ ♀. Newcastle, Natal, June 3rd, 1873.

Beak, gape, and lower part of under mandible yellow, the rest black; legs black; iris yellow.

The yellow in the beak of the female is less bright. These birds are very common, going about in straggling flocks. Their movements on the ground are lively, resembling those of *Sturnus vulgaris*; the note is something like the chatter of a Fieldfare. I do not remember having met with this species out of Natal.

LAMPROCOLIUS PHŒNICOPTERUS (Sw.).

a, ♂. Natal, May 22, 1873.

Beak and legs black; iris lemon-yellow.

b, ♂. Limpopo, November 17th, 1873.

c, ♂. Tatti, October 11th, 1873.

Beak black; legs dark brown.

Very common from Natal to the Matabili country, but I never saw them in any very large flocks. They breed in October in hollow trees, and seem to lay about three eggs.

LAMPROTORNIS AUSTRALIS (Sm.).

♂. Transvaal, July 8th, 1873.

Beak and legs black; iris dark hazel.

Very common in the north of the Transvaal, building under the eaves of the houses in Pretoria.

DILOPHUS CARUNCULATUS (Gm.).

♂. Serule, Bamangwato, August 28th, 1873.

Beak light brown; legs dark brown; iris dark hazel.

I only met with this species on this one occasion, when I secured three out of a small flock near a water-hole.

Buphaga africana, L.

♀. Matabili, September 23rd, 1873.

Beak, base yellow, tip red; legs black; iris orange-red.

Common in the north of the Transvaal right up into the Matabili country. This bird is a great nuisance at times to cattle, from its habit of pecking holes in them; they run over a bullock as easily as a Woodpecker on a tree, picking out the ticks which infest them. Over a bullock's back you may see three or four of these birds' heads reconnoitering you on your approach; so tame are they, that the one in question was killed by one of our natives, with a stick, from a horse's back. This species is continually with the Rhinoceros, and when the animal is disturbed, the birds hover over it as it runs, keeping up a continual twitter.

Corvus albicollis, Lath.: Layard, p. 167.

Corvus scapulatus, Daud.: Layard, p. 168.

Both equally common, affecting the open plains and neighbourhood of towns more than the bush-country.

Corvus segetum, Temm.

Not nearly so common as the two preceding species, nor did I ever observe them in flocks.

Textor erythrorhynchus, Smith.

♂. Transvaal: July 16, 1873.

Beak red; legs red; iris dark hazel.

Very common on the Limpopo, where they are to be found in winter in flocks, and in summer breeding in the largest trees along the river-bank. Their nests are very large, and seem to be composed of sticks; but as the trees in which they build are very thorny, like nearly every tree in Africa, I was unable to examine them. These birds breed in small colonies.

Hyphantornis capitalis (Lath.).

a, *b*, ♂. Limpopo, November 22nd & 23rd, 1873.

Bill black; legs flesh-coloured; iris dark hazel.

Not observed on my way up the country; so it perhaps only comes here to nest. These birds breed in colonies, a tree by the river-side being literally covered by their pendulous nests, which are very slightly constructed of grass. Their eggs are blue speckled with dark brown.

HYPHANTORNIS NIGRIFRONS, Cab.

a, ♂. Matabili, September 29th, 1873.

Bill black; legs brown; iris reddish.

b, ♀. Tatti, October 10th, 1873.

Bill and legs dark brown; iris reddish brown.

c, *d*, ♂. Bamangwato, October 14th, 1873.

Bill and legs brown; iris yellowish white.

e, *f*, ♂. Bamangwato, October 14, 1873.

Bill black; legs brown; iris yellowish white.

These birds were very common through the Bamangwato district, and when first met with had scarcely got their full plumage. The difference in the colour of the bill and iris may be attributed to difference of age.

HYPHANTORNIS CAPENSIS (Gm.).

♂. Transvaal, December 16th, 1873.

Beak black; legs light brown; iris light straw-colour.

Apparently not very common, but generally to be seen singly about water in the marshes.

PLOCEPASSER MAHALI, Smith.

♂. Matabili land, September 8th, 1873.

Beak horn-colour; legs brown; iris dark red.

First met with on the Limpopo. They build large nests of dried yellow grass in the flat tops of the mimosas, several pairs occupying the same tree. Most of these nests have a hole right through, and seem only used for roosting in, as there is no place for eggs; it is the older-looking nests that contain the eggs, which are pink, speckled with light brown; these nests have only one entrance. The male has a short but sweet song.

SPOROPIPES SQUAMIFRONS (Smith).

♂. Matabili; September 29th, 1873.

Beak rose-colour; legs greyish brown; iris dark brown.

A common bird in the Bamangwato and Matabili countries.

EUPLECTES CAPENSIS (L.).

♂. Drakenberg, Natal, December 19th, 1873.

Beak black; legs dark brown; iris dark hazel.

A common bird from Natal to the Matabili. In the young male the beak is brown and the legs of a lighter colour; but this is most likely the winter colouring as well; the feathers are then almost uniformly of a brown colour, the rump and shoulders of the wing bearing traces of yellow.

EUPLECTES ORYX (L.).

♂. Transvaal, December 16, 1873.

Beak black; legs light brown; iris dark hazel.

A very common species in the Transvaal, breeding in large colonies among the reeds in the "vleys," where there was always water between them and the bank. It was a pretty sight to see the splendidly coloured males flying in every direction; on being disturbed they generally took a long turn over the land and then returned to their nests. The latter are constructed of dried grass, domed over, with a hole at the side; the eggs, three in number, are blue spotted slightly with brown.

VIDUA PRINCIPALIS (L.).

a, ♂. Natal, December 27th, 1873.

Beak crimson; legs greyish black; iris dark hazel.

b, ♂. Drakenberg, December 20th, 1873.

I do not remember meeting this Whydah bird out of Natal; it was common in the latter country.

VIDUA REGIA, L.

a, ♂. Limpopo, Nov. 15, 1873.

Beak pink; legs pinkish brown; iris dark hazel.

CHERA PROGNE (Bodd.).

One of the commonest, and at the same time the most noticeable Weaverbird in the Transvaal, north of which country we did not meet with it. Their long tails form an incumbrance in a high gale of wind, so that they may almost be run down. We found the males very common during the breeding-season, but never succeeded in securing a female. The natives call this bird *Sac-a-bula*, and prize its long tail-feathers as an ornament for their hair.

VIDUA ARDENS (Bodd.).

a, ♂. Drakenberg, December 20th, 1873.

Bill and legs black; iris dark hazel.

I only met with this bird on our return journey. It frequents marshy land on the sides of streams.

UROBACHYA AXILLARIS (Smith).

This bird I only saw on my way down close to Pietermaritzburg; but having no gun, I never procured a specimen; when flying it resembled *C. progne* minus the long tail.

ESTRELDA CYANOGASTRA (Daud.).

♀. Matabili, September 29th, 1873.

Beak purple; legs light brown; iris orange-red.

Very common through the Transvaal into the Matabili country. It is a rather more conspicuous species than some of the other small Finches.

ESTRELDA GRANATINA (L.).

♀. Matabili, September 29th, 1873.

Beak red; legs black; iris orange-red.

Common in the Matabili country, where they go about in small flocks.

PYTELIA MELBA (L.).

♀. Bamangwato, October 26th, 1873.

Beak crimson; legs brown; iris red.

Met with, though not very abundantly, throughout the Bamangwato and Matabili countries. They seem to be very unobtrusive in their habits.

PASSER ——, sp.

I once found three or four pairs of Sparrows building in some old trees near the Limpopo; I procured one, but it was too much injured to be of any use. I do not remember having met with them again. The one I shot resembled *P. simplex*, which is the common species on the Gold Coast, and was most likely *P. diffusus*.

FRINGILLARIA FLAVIVENTRIS (V.).

♂. Transvaal, July 4th, 1873.

Beak horn-colour above, light brown beneath; legs light brown; iris dark hazel.

Met with sparingly in the bush "veldt" north of Pretoria into the Bamangwato district, but not found in any great abundance. It seems to be rather solitary in its habits.

FRINGILLARIA TAHAPISI (Smith).

♂ ♀. Transvaal, November 29th and 30th, 1873.

Beak horn-colour above, lower mandible yellow; legs brownish yellow; iris dark hazel.

Not observed on my way up, and on my return only seen in the Transvaal.

ALAUDA CINEREA (Gm.).

♂. Pietermaritzburg, Natal, May 2nd, 1873.

Beak, base brown, tip black; legs dark brown; iris dark hazel.

I only saw these birds here; there was a scattered flock, of which I procured these two males and one female; they run fast and are extremely difficult to see.

CERTHILAUDA SEMITORQUATA, Smith.

a, ♂. Transvaal, June 16th, 1873.

Beak and legs black; iris dark hazel.

Not very common, I fancy. This was the only specimen I obtained; and I observed only one or two more. This one was shot on the side of a small hill among some stones; its flight was undulating.

ALAUDA NÆVIA, Strickl.

a, ♂. Transvaal, July 5th, 1873.

Beak horn-colour; legs brown; iris hazel.

b, ♂. Transvaal, July 8th, 1873.

Beak horn-colour; legs flesh-colour; iris dark hazel.

c, ♂. Transvaal, July 10, 1873.

Legs light brown; iris hazel.

d. ♀. Bamangwato, October 15th 1873.

Beak brown; Legs light brown; iris light hazel.

Specimen *a* is of a rufous tinge all over, from the nature of the ground on which it was shot. These birds agree with a

Transvaal specimen shot by Mr. Ayres, and now in Mr. Sharpe's collection.

These birds are very common north of Pretoria, sitting on bushes quite as much as on the ground; they are mostly solitary, even a pair being rarely seen together, except in the breeding-season. They range as far as the Matabili country.

ALAUDA AFRICANA, Smith.

a, ♀. Natal, May 22nd, 1873.

Bill horn-colour; legs light brown; iris hazel.

ANTHUS PYRRHONOTUS, Vieill.: Gurney, Ibis, 1871, p. 156; Layard, Ibis, 1871, p. 228.

Anthus erythronotus, Steph.: Sharpe, Cat. p. 72.

♂. Bushman's River, Natal, May 21st, 1873.

Beak black above, brown beneath; legs brown; iris hazel.

ANTHUS CAFFER, Sund.

a, ♀. Pietermaritzburg, May 2nd, 1873.

Beak blackish brown; legs light brown; iris dark hazel.

Common through Natal and the Transvaal. I once found a nest at Pretoria, which I believe belonged to this species. The nest itself was the same in appearance as that of the Meadow Pipit, but the eggs rather more streaked than those of that bird.

MACRONYX CAPENSIS (L.).

♂. Transvaal, December 9th, 1873.

Beak horn-colour; legs brown; iris dark hazel.

Very common through Natal and the "High Veldt," part of the Transvaal. They are found singly or in pairs, and fly with several very rapid beats of the wing together, uttering their call note all the time, which is exactly what Layard calls "mewing."

COLUMBA PHÆONOTUS, Gray, Hand-l. B. ii. p. 234.

a, ♂. Natal, June 5th, 1873.

Beak black; iris light brown.

I only procured one; but in the north of the Transvaal I saw a large flock. On our return journey I found some Pigeons, evidently of this species, at the same place, breeding in a cave.

Œna capensis (L.).

♂. Transvaal, July 3rd, 1873.

Beak orange-red; legs pink; iris dark red.

These pretty Doves were first observed a day's journey from Pretoria, and, although never in very large flocks, were very common. I met with them at the Tatti, in the Matabili country.

Pterocles gutturalis, Smith.

a, b, ♂. Transvaal, July 11th, 1873.

Beak black; iris dark brown.

First met with about two days' journey by bullock-waggon from the Limpopo, in the north of the Transvaal. They go about in small flocks in the open country. Their note is very like the croaking of a Woodcock, but much louder. In the evening they begin to fly down to their watering-places.

Pterocles bicinctus, Temm.

a, b, ♂ ♀. Transvaal, July 20th, 1873.

Beak yellow; iris dark hazel.

Very common from the Limpopo to the Matabili. In the evening they come down in immense flocks to the water-holes to drink. During the day they are mostly found in pairs, or at most three together; they rise sharply from the ground, uttering a somewhat creaking note.

Eupodotis cærulescens (V.).

♂. Transvaal, June 21st, 1873.

Beak, base horn-colour, tip black; legs yellowish brown; iris hazel.

Common throughout the high country of the Transvaal, but not met with in the bush by me. This bird goes in small families, three or four being found together; but, from their habit of running, they rarely all rise on the wing together.

Eupodotis afroides, Smith.

Common throughout the north of the Transvaal. During the breeding-season the male flies about making a most peculiar noise, something like a small drum being beaten with one stick.

EUPODOTIS RUFICRISTA (Smith).

a, ♂. Transvaal, July 6th, 1873.

Upper mandible black, lower one yellowish white; legs greenish yellow; iris light stone-colour.

This Bustard is common from the north of the Transvaal to the Matabili country, and is a bush-loving species. It breeds about October or November, and lays either one or two eggs.

NUMIDA CORNUTA, Finsch & Hartl. Vög. O.-Afr. p. 569 (1870).

Very common from the Limpopo to the Bamangwato district; and on one occasion I must have seen about two hundred on the wing together. In the evening they come to the water-holes to drink, and roost in the trees close by. They are capital eating.

FRANCOLINUS SUBTORQUATUS, Smith.

a, ♂. Bamangwato, July 29th, 1873.

Beak black, yellow at base of under mandible; legs yellow; iris light brown.

Found in Natal and the Transvaal, and fairly common up to the Matabili country, but, from the extreme difficulty in flushing them, not often seen. When once up, however, they go off as quickly as a Partridge in November.

FRANCOLINUS SWAINSONI, Smith.

First met with two or three days north of Pretoria, and thence common in all suitable localities into the Matabili country; this is the bird called "Pheasant" by the colonists. In the older males the throat is bare for an inch or more, and is of a dirty red colour. These birds are generally found in coveys; they are very quick runners, and it requires a good deal of exertion on one's part to flush them.

FRANCOLINUS PILEATUS, Smith.

a, ♂. Mackloetze river, Bamangwato, August 16th, 1873.

Beak black; legs light red; iris dark hazel.

Very common, going about in coveys; in the evening they may be heard calling in all directions from the trees. Found from the Limpopo up to the Matabili country.

FRANCOLINUS NATALENSIS, Smith.

a, b, ♂ ♀. Transvaal, July 3rd, 1873.

Beak and legs red; iris dark hazel.

The commonest Francolin throughout the Transvaal up to the Matabili country.

TURNIX LIPURANA (Smith).

I saw this bird on several occasions in the Matabili country; they are generally to be found in pairs.

CHETTUSIA LATERALIS (Smith).

a, ♂. Transvaal November 27th, 1873.

Beak greenish, black at tip; legs lemon-yellow; iris dirty straw-colour; upper wattle scarlet, lower one light yellow.

Only seen in this one locality on our way down. From what I saw of its habits they seem to resemble those of *Hoplopterus coronatus.*

HOPLOPTERUS ARMATUS, J. & S.

a, b, ♂ ♀. Transvaal, December 8th, 1873.

Beak and legs black; iris crimson.

Common in suitable localities from the Transvaal to the Matabili country. Generally to be found either in pairs or in companies of five or six. Watchful and noisy in their habits, though not shy. They breed on the banks of rivers or near marshes.

HOPLOPTERUS CORONATUS (Temm.).

a, ♂. Natal, March 14, 1873.

Beak pink, black at tip; legs pink; iris light yellow.

Common throughout Natal and the Transvaal, going about in flocks in the winter.

CHARADRIUS TRICOLLARIS, V.

a, ♂. Natal, May 22nd, 1873.

Beak orange-red at base, black at tip; legs pink; iris light brown.

b, ♂. Transvaal, December 9th, 1873.

Beak as above; legs flesh-coloured; iris dark hazel; rim round the eye brick-red.

Common throughout Natal and the Transvaal, frequenting the banks of streams, but never more than two or three seen together.

Œdicnemus maculosus, Temm.

a, ♂. Natal, May 30th, 1873.

Beak black, yellow at base; legs yellow; iris light yellow.

Found both in the bush and open country throughout Natal and the Transvaal.

Glareola nordmanni, Fisch.

a, ♂. Transvaal, December 8th, 1873.

Beak black; legs brownish black; iris dark hazel.

Very common on our return journey; found in large flocks on the high ground of the Transvaal. They have a very bold flight, more like that of a Hawk than a Plover.

Numenius arquatus (L.).

Only once observed by me, and that on the morning when I took the eggs of *Balearica regulorum*; there were about seven or eight in a small flock.

Totanus glottis (L.).

Fairly common along the Limpopo, where I have often seen them and heard their well-known cry.

Philomachus pugnax (L.).

Observed in large flocks on our way down through the Transvaal, where we obtained several specimens.

Gallinago æquatorialis, Rüpp.

a, *b*, ♂ ♀. Pietermaritzberg, May 2nd, 1873.

Beak black; legs brownish green; iris dark hazel.

Common in suitable places throughout Natal and the Transvaal. Their note resembles that of the English Snipe.

Crex pratensis, Bechst.

Ortygometra crex, Layard, B. S. Afr. p. 338.

a, ♂. Drakenberg, Natal, December 19th, 1873.

Beak and legs flesh-colour; iris light hazel.

The only specimen met with; and I never heard its familiar call in South Africa.

FULICA CRISTATA, Gm.

Two specimens obtained in the Transvaal, where they are fairly common.

BALEARICA REGULORUM (Licht.).

Pretty common throughout the open country of the Transvaal, and called by the Dutch "Māhem." One morning, on the 12th of November last year, seeing some Black Wildebeests on the other side of a valley, I set out after them, but found, to my disgust, that the way was blocked by a channel of water, on either side of which were tall reeds. As I was walking along looking in vain for an opening to get across, I flushed one of these birds from a small open space among the reeds; going to the place I found a large floating nest composed of dried reeds, in the centre of which were two eggs of a white colour tinged slightly with blue; these, after some little difficulty in wading to the nest, I obtained. The nest had no lining whatever.

TETRAPTERYX PARADISEA (Licht.).

Not uncommon in the open country of the Transvaal, where it is generally to be seen in pairs. They are so wary that I never obtained a specimen.

CICONIA ALBA, L.

On our return journey we found immense flocks of these birds frequenting the sandbanks and grassy places along the Limpopo, and procured one specimen.

SCOPUS UMBRETTA (Gm.).

a, ♀. Transvaal, June 8th, 1873.

Beak and legs black; iris dark hazel.

In the summer I found these birds breeding on the banks of the Limpopo, making an immense nest in trees, which, being mostly composed of thorns, is extremely difficult to get into. One of them, which I managed to storm with great difficulty, was neatly lined inside with mud, and contained three young birds covered with white down. In the winter this bird is found wherever there is a pool of water; and though generally alone, it is not at all shy.

Ardea cinerea, L.

Fairly common on the Limpopo, where I observed several pairs and obtained one specimen, of which, however, I only preserved the feathers of the neck and the upper wing-coverts.

Ardea purpurea, L.

Common through the open country of the Transvaal, building among the tall reeds of the "sluits" that are generally to be found in the hollows of the undulating ground.

Ardea alba, L.

A few pairs seen along the Limpopo during the summer.

Ardeola comata (Pall.).

a, ♂. Bamangwato, August 19th, 1873.

Beak yellowish, black towards tip of culmen; legs greenish yellow; iris light yellow.

b, ♂. Transvaal, July 11th, 1873.

Distributed through the country and found only singly.

Chenalopex ægyptiacus (L.).

Seen in pairs on the sandbanks of the Limpopo; they are very wary, and begin to sound the note of alarm long before one can see them; one which we obtained was shot from a nest in a tree, where it was doubtless sitting on its eggs.

Plectropterus gambensis (L.).

We obtained one specimen which, I believe, belonged to this species. In size it resembled a Goose; and the general colour was black. We often used to see birds, I suppose, of this species in the marshes of the Transvaal. From their colour they were very conspicuous, but very shy.

Anas flavirostris, Smith.

Mooi River, Natal, May 19, 1873.

Beak black, with a yellow patch down the middle of the upper mandible; legs black; iris light orange.

The commonest Duck throughout Natal and the Transvaal, and by no means wary. Its flesh is excellent.

ANAS SPARSA, Smith.

Natal, May 15, 1873.

Iris dark hazel.

A common Duck, going about generally in pairs; they rise heavily, like a Pochard. I only saw them south of Pretoria.

STERNA LEUCOPTERA.

a, ♂. Transvaal, December 9th, 1873.

Beak black; legs orange-yellow; iris dark hazel.

Seen in the Transvaal, on our way down, in flocks frequenting the marshes and lagoons.

PLOTUS LEVAILLANTI?

I obtained one specimen which I can only refer to this species, and observed several more; they frequented the "sluits" and pools of water of the Transvaal.

PELECANUS ——.

I once or twice saw Pelecans soaring high in the air in circles. At Bamangwato I saw a skin of one, which I unfortunately neglected to obtain; I was told it came from the lake (Lake N'gami) where it breeds, and was only found there.

STRUTHIO AUSTRALIS.

Still common, but very much hunted for the feathers, which, with ivory, are the two principal articles of trade with the Kaffirs. Ostriches seem to lay from August to October, as the natives bring in their eggs during all that time. The stride of an Ostrich is enormous, being equal to about three steps of a man. They are generally seen in pairs.

XXXIX.—*Ornithological Notes on the North-Frisian Islands and adjacent Coast.* By HENRY DURNFORD.

BEING desirous last spring of making an egg-collecting expedition, my brother and I pitched upon the North-Frisian Islands, lying off the coast of Schleswig, as the scene of our operations. Several English ornithologists have before visited them; but, as far as I am aware, no account of them has hitherto been published in this country; and, indeed, the only contribution to their ornithology I know of is the short paper on the birds of Sylt by Rafn, published in 'Naumannia' for 1857 (pp. 125–128). Owing to a law which came into operation this year, no eggs are allowed to be taken (except in a few islands, where the people chiefly subsist on them) after the 30th April; and there is also a law prohibiting the shooting of birds on land. Fortunately for us, the first of these laws is not as yet very strictly enforced, and we accordingly took little notice of it—but were continually advised to be very cautious in the matter of taking eggs; we heard that a few days previous to our landing on Sylt two men had been fined 20 dollars (about £3) apiece for taking Herring-Gulls' eggs from the sandhills. Its existence, however, hindered us, inasmuch as we did not like to hunt over the land in the more populous districts; still we always found ourselves fully employed wherever we were. I left Hull on the 24th May, and had a very stormy passage across to Hamburg, where I met my brother, who had come by train from Paris. Off Spurn Point I observed a single *Sterna nigra* amongst a party of *S. fluviatilis* or *S. hirundo*; about a hundred miles from the lighthouse an *Anthus pratensis* came on board from an easterly direction, but much exhausted. When about sixty miles from Heligoland another sought the shelter of our boat; and before we reached the island we had four or five on board. They were all very tame, and if I had desired I could have caught them in my hands. We passed within about five miles of Heligoland; and when near the island they all left us, flying in its direction. Just off the mouth of the Elbe a fine pair of *Anas acuta* flew in a north-easterly direction close over our boat. Amongst the scanty vegetation on the banks of the river I observed *Ægialitis minor* to be numerous, but saw none elsewhere.

The country from Hamburg to Husum is flat and uninteresting; but we passed over some extensive boggy heaths containing very inviting-looking spots for Plovers, Snipes, &c. We saw a few pairs of *Tringoides hypoleucus* near the pools of water formed in the holes whence peat had been dug, and a pair of *Buteo vulgaris* on the heath near Husum. One had just caught a bird of some sort, and perched on the telegraph-wire with it in its claws.

The North-Frisian Islands may be divided into three classes:—first, those surrounded by an artificial embankment to resist the encroachments of the sea, and others which are of precisely the same character but have not this protection (these are mostly highly cultivated and pretty thickly peopled); secondly, those which have a natural barrier of sandhills, which are not so much cultivated as the first, neither is their population so numerous; thirdly, the small islands with about one house on each, standing in the centre, and raised some twenty or thirty feet above the surrounding level. These last islands are very low and flat, and are frequently covered, except the little raised centre, by the sea during high winter tides. They are inhabited by one or two shepherds, who have a flock of sheep and perhaps a few cows and oxen to tend. All communication with the mainland or nearest island is often cut off for many months together during the winter. On Sylt, belonging to the second class, the sandhills or dunes are very extensive, reaching from List, at the north, to the southernmost point of the island, about twenty miles, and are in one place as much as three miles across. The North-Frisian group embraces about twenty islands, large and small. Our route was from Hamburg to Husum by train, thence by steamboat to Nordstrand; from there we crossed on foot to Sudfall. On leaving Sudfall we returned to Husum and took train to Tondern, travelling from there to Hoyer by diligence, a wretched machine, in which one is dragged along at the rate of four miles an hour. At Hoyer we took passage in the steamer plying between that place and Munkmarsch, Sylt. After spending three days on this island we took an open boat to the north point of Amrum; and thence, after travelling through the island, we crossed in a fishing-boat, half-decked, to Wyk, Föhr, the largest and most important town on the islands. From Wyk we found a mail-boat sailing to Dagebüll, on the mainland, about halfway between Husum and Hoyer; and we accordingly availed ourselves of it. We drove from Dagebüll to Husum by road, and, after collecting our impedimenta, retraced our journey to Hamburg. We met with invariable kindness and civility from the natives, whose chief desire is to afford the visitor every help in their power.

Many of the islands have "Vögelkojen," which are in every respect like our decoy-ponds in England, and in which, during the winter, large quantities of Ducks are taken. On the only one we examined closely, on Sylt, some twenty or thirty pinioned Wild Ducks, Teal, and Wigeon were quietly reposing. Travelling through the islands generally has to be performed on foot, as roads only exist between the principal villages, and they are usually what we should call cart-tracks in England. The horses are powerful, well-fed animals; but the vehicles they have to draw are, to the untutored foreigner, veritable instruments of torture. In shape they somewhat resemble our ordinary English hay-waggons, but are very narrow at the bottom, with sides rapidly sloping outwards. The traveller takes his seat on a wooden plank placed across the waggon, while the driver sits on another plank in front. It is quite impossible to find a comfortable position; and the amount of jolting and shaking one has to submit to can scarcely be imagined, especially as the vehicle has not the slightest apology for springs. The native boats are usually flat-bottomed, which, as the coast is extremely flat, and channels narrow and, owing to the number of sandbanks, difficult of navigation, is very necessary. This remark does not apply to the fishing-boats, in which the fishermen are often out at sea three or four days at a time, but to the boats which are used for conveying farm-produce, stock, &c. from one island to another, or to the mainland; all we saw were cutter-rigged. The inhabitants are excellent sailors; and, as the population is chiefly composed of men who have spent a greater or less portion of their lives on the sea, we were seldom at a loss to find some one who could converse in English. The women do a great deal of out-door work. While we were at List the farmer took advantage of the fine warm weather to shear his sheep, and impressed many girls from the nearest village into his service.

The fare is coarse, chiefly black bread and eggs, with perhaps a sole or piece of bacon; but excellent butter and an almost unlimited supply of cream make up for a multitude of defects, and after a hard day's work one can eat almost any thing. The charge for board and lodging is extremely moderate. We were favoured with almost uniformly fine weather; and one or two days while we were at List the sandhills seemed thoroughly baked by the sun, and the heat almost unbearable.

Arranged in something like scientific order, my notes on the birds we saw are as follows:—

CIRCUS ÆRUGINOSUS.

On Sylt, as we passed a "Vögelkoje," about two miles north of the village of Kampen, a bird rose from the low bushes surrounding the pond, and we saw another soaring high in the air. Returning past the place two days afterwards we again flushed the bird; and on going into the enclosure I found a nest in a wet place amongst the low shrubs, formed completely of reeds and heather, and raised about eighteen inches off the ground. It contained four young, of which I preserved two; their stomachs were crammed with the remains of frogs. On Amrum we observed a few at both ends of the island beating up the sandhills for rabbits. On Föhr we saw one or two pairs.

CUCULUS CANORUS.

This we found pretty common everywhere, especially in the neighbourhood of dunes.

CYPSELUS APUS.

Common on the mainland; but we did not see it on the islands.

HIRUNDO RUSTICA.

Common everywhere, the most numerous of the Hirundinæ.

HIRUNDO URBICA.

Common.

HIRUNDO RIPARIA.

Pretty common.

SAXICOLA ŒNANTHE.

Numerous on the mainland and islands in suitable localities.

MOTACILLA ALBA.

Common on Sylt and Amrum. We saw one pair on Nordstrand and a few on the mainland.

MOTACILLA FLAVA.

Common on Amrum and on the mainland, where we put up a small flock roosting in a patch of reeds near Hoyer. A pair seen on Nordstrand had a nest, I think; but we were unsuccessful in our search for it.

ANTHUS PRATENSIS.

A few pairs observed on the north end of Sylt.

ALAUDA ARVENSIS.

Common everywhere.

EMBERIZA MILIARIA.

Common on the mainland. We saw a few on Sylt and a single bird on Nordstrand.

EMBERIZA SCHŒNICLUS.

Common in suitable localities.

PASSER DOMESTICUS.

Common everywhere.

LINOTA CANNABINA.

Common at the north end of Sylt. We observed a few on the mainland.

STURNUS VULGARIS.

Common everywhere. The natives set up boxes outside their houses both for Starlings and Sparrows, of which the birds readily avail themselves.

TURTUR AURITUS.

A pair frequented a field of rye near List, the north end of Sylt, whilst we were there.

PERDIX CINEREA.

We heard two or three calling on the mainland near Hoyer, but we did not observe it on the islands.

CREX PRATENSIS.

A single bird rose at our feet while hunting over some sedgy and heathy ground at the south end of Amrum.

CICONIA ALBA.

Common in every village, and almost every homestead, on the mainland, but not observed on the islands, except a pair on the coast of Föhr, which had probably crossed over as visitors.

HÆMATOPUS OSTRALEGUS. Frisicè "Canlite."

Common on the islands and mainland. Has its nest on the sandhills or shingle of the beach. I observed one swimming in the sea off Sylt. We reckoned about a hundred pairs nesting on Sudfall.

RECURVIROSTRA AVOCETTA. Frisicè "Dücker."

On the 28th May we saw three or four pairs of Avocets feeding in a marsh on the left bank of the Creek near Husum, and shot a female bird containing an egg in a forward state, as she flew from a marsh on the right side of the creek. The nests were evidently in the latter place, as the two birds feigned lameness; but after a long and unsuccessful hunt we gave up the search. On the 30th we again visited the marsh, but found labourers engaged in it and no Avocets; on walking past the men's coats, which had been thrown in a heap on the ground, we saw lying there three Avocet's eggs among some Tern's and Kentish Plover's. They had found them whilst working on the marsh, and gave them to us. We watched several birds on the 7th June, as well as on a previous occasion, for fully half an hour, through good glasses, feeding on the soft ooze, and we never detected any lateral motion of the beak; they took their food like ordinary surface-feeding Sandpipers. We did not see this species on any of the islands or elsewhere on the mainland.

VANELLUS CRISTATUS.

Common everywhere, and a perfect nuisance to us; for whenever we wanted to watch any bird a screaming Peewit was sure to be circling overhead.

SQUATAROLA HELVETICA.

Many observed near Husum feeding on a tidal marsh and mudbanks of the creek, mostly in pairs. A few seen on Sylt.

ÆGIALITIS HIATICULA.

Common on Sudfall, but not so numerous as the next species, which is found all over the island, while this only frequents the sea-beach. On Sylt *Ægialitis hiaticula* was more numerous than *Æ. alexandrina*; and on Amrum the proportion was about one to three. On the coast at Husum we reckoned the proportion of *Æ. hiaticula* to *Æ. alexandrina* at about one to ten. At Hoyer, the most northern point of the mainland we visited, the former was numerous; and we did not see *Æ. alexandrina* there, probably owing to the nature of the ground, which was clothed with a scanty vegetation. To sum up, *Æ. hiaticula* is found more especially on shingle and where the vegetation is slight, as it often prefers nesting amongst a few blades of grass. It is much more demonstrative when its nesting-ground is invaded than *Æ. alexandrina*; and its note is much stronger than that bird's.

ÆGIALITIS ALEXANDRINA.

Many observations on this species would only be a repetition of those on the preceding. We never saw it where there was any vegetation, as it prefers the most barren spots. The nests were generally on fine shingle or gravel in the most exposed places. On Sudfall we found a nest amongst clods of earth on the marsh, lined with a few fragments of roots of grass. Its note is much weaker than that of *Æ. hiaticula*; and it never flies round one on approaching its nest, but contents itself with feigning lameness, or flying a short distance and then pitching again and running on in front of the observer, uttering a feeble whistle—*twee, twee, twee.* It appears a much more slender bird than *Æ. hiaticula,* and, when flying, of a lighter colour on the back; when standing on the ground and facing one, the two patches of black, one on each side of the breast, are very conspicuous. The nest seemed to be somewhat smaller than that of the other species; it is sometimes lined with a few fragments of shell, but is often nothing more than a mere hollow. Near Husum we frequently observed it feeding on the mudbanks of the creek.

TRINGOIDES HYPOLEUCUS.

Two or three pairs observed near Husum, close to pools, on the extensive heaths.

TOTANUS CALIDRIS. Frisicè "Tutti."

Common on Sylt, Amrum, Föhr, and Nordstrand, wherever there was sufficient cover for the nest, which we always found well concealed. A few on Sudfall; common on the mainland.

MACHETES PUGNAX.

Common on Sylt, Amrum, and Föhr, having its nest on a tussock in the wettest places. We observed some noble battles amongst the Ruffs, who, unless fighting, stand bolt upright, like Owls. When engaged in combat they stoop and charge like Gamecocks. The Reeves are silent except when they have young, then they will fly slowly round one, with a low guttural note. On Föhr we observed one which, from its anxiety, betrayed the fact of its having young. We retired behind the sea-wall, glasses in hand; and after waiting a few minutes, three young ones ran out from the grass, and then a fourth. Leaving my brother to watch, I jumped up and ran to catch them. They all scuttled away; and I could only secure one, the others escaping in the long grass. However, we again retired to watch behind the bank, and had not been there half a minute before they ran out again and began to feed with their mother. I merely mention this incident to show their bold and fearless nature. We did not observe this species on the mainland.

NUMENIUS PHÆOPUS.

We saw several feeding on the ooze on the shore of Sylt, and one rose from some heather on the sandhills at the north end of the island, but we could find no nest. We observed a few on the coast near Husum.

NUMENIUS ARQUATA.

A few feeding on the ooze on the east coast of Sylt.

LIMOSA LAPPONICA.

On the 28th May we saw three or four feeding in the marsh on the left bank of the creek near Husum, and on the mud-banks of the creek itself, and had a shot at one; but when we visited the marsh again on the 30th we saw no Godwits; doubtless the birds were only migratory.

GALLINAGO GALLINULA.

A single bird rose from a small patch of tall reeds surrounding a pool of water close to the sea near Husum. There was no nest.

TRINGA SUBARQUATA.

A pair observed feeding in the marsh on the left bank of the creek at Husum on the 30th May; but when we again visited the spot on the 7th June they were not there.

TRINGA ALPINA.

Common on the mainland and on all the islands having suitable nesting-ground. The nests were on low tussocks in exposed situations, and also in places where it was very difficult to find them. When disturbed the birds would alight almost at our feet, not showing the least fear; and they then frequently uttered a low continuous sort of clicking note.

STERNA NIGRA.

We found two pairs nesting in a very wet, marshy spot on Nordstrand, and one pair on Föhr. We observed a few pairs on the mainland, near Husum, and again near Hoyer, in very wet places. All the nests we found were made of the dead stems of reeds, and resting, half floating, just at the edge of pools of water among tall rushes.

STERNA MINUTA. Frisicè "Klitteet."

Very common in suitable localities, both on the mainland and islands, generally breeding in small colonies.

STERNA FLUVIATILIS. Frisicè "Kerr."

Pretty common on Sudfall, Sylt, Amrum, and the mainland near Husum.

STERNA HIRUNDO. Frisicè "Kerr."

On Sudfall more numerous than the preceding, nesting both on the sea-beach and marsh; common on Amrum and the mainland. We reckoned about three hundred pairs of Arctic and Common Terns nesting on the first-named island.

STERNA CANTIACA.

We found no nests; but the pastor of St. Clement's church on Amrum, who is a bit of a collector, had several eggs taken on the island, and among them some of this species. We saw three birds on the west coast of Sylt. It probably breeds occasionally on the islands. The eggs the pastor had were taken some years ago at the north end of Amrum, where there is capital nesting-ground; but there were no birds when we were there.

STERNA CASPIA.

On the 3rd June we walked from List, the most northern village on Sylt, to the nesting-place of this species on the north-west coast of the island, halfway between the two lighthouses. There were two small colonies, some hundred and fifty yards apart, one consisting of about ten and the other of about fifteen pairs of birds. They lay their eggs on the bare sand, between the beach and the dunes, in a slight hollow about the size of an Oyster-catcher's nest, occasionally lining it with a few pieces of shell. No nest (and we saw about a dozen) contained more than two eggs, which is not to be wondered at, as they are robbed by boys from List on every possible occasion. There were about ten eggs on the ground, two nests with two each, others containing a single egg apiece, and a few empty. We were accompanied by the lighthouse-keeper, who protects the nests as well as he can for the farmer. The latter has learnt the value of the eggs, and offered us a few he had in a box for sale; but we could not prevail on him to let us take any for ourselves. We obtained, however, some from the boys, which had been taken on the sly. The birds had not all laid when we were there; but the farmer told us the colonies were much diminished of late years. We did not see this species elsewhere.

The Caspian Tern is an extremely handsome bird, its bright red bill, when circling over one's head, contrasting well with its dark lead-coloured legs. Whilst approaching their nesting-ground we were greeted with harsh and noisy screams. Their note is not unlike that of *S. fluviatilis*, but louder and more powerful. When they have young they are said to be extremely bold; and the farmer told us that when, on one occasion, he was visiting them with some friends, a bird took from a lady's hand a pocket-handkerchief which she was waving over her head.

LARUS CANUS.

We saw a few Common Gulls on Sylt amongst the Herring-Gulls, and also on Amrum, but found no nests, though they doubtless breed on the dunes.

LARUS ARGENTATUS. Frisicè "Mieu."

Abundant on Sylt, nesting on the dunes, and on Sudfall, in the marsh surrounding the shepherd's house. A few on Amrum. Some years ago, before the passing of the law prohibiting the taking of eggs by any one, the farmer who owns the northern portion of Sylt made a point of protecting them; and he assured us he used then to have from forty to fifty thousand gathered during the season, always, however, allowing them to sit after the 14th June; but now everybody who cares to run the risk of being fined takes them, and they still form a large proportion of the food of the natives. The extraordinary numbers of these birds on Sudfall must be seen to be appreciated; their nests are large structures of sea-weed and coarse grass, and are placed in close proximity to each other; they are most numerous at the east end of the island, but are also found on the north and west shore. Whilst staying at the shepherd's house their eggs were provided for us at every meal.

ANSER BERNICLA. Frisicè "Goos," pl. "Ganz."

Whilst on Sudfall we saw flocks which must have amounted to two hundred birds. This island can only be reached by crossing over at low water from Nordstrand, from which it is distant about four miles. We started in the afternoon of the 28th May, during a thick drizzling rain from the north-east, with knapsacks and boots slung over our backs, and trousers tucked up to our knees, and arrived safely at our destination after about an hour and a half's hard walking. On leaving Nordstrand the island appears a mere speck, as nothing but the raised central portion can be seen; and I must say we felt relieved when we stepped from the soft yielding ooze on to firm ground again. The Geese here were very restless, never staying to feed long in one place, and were doubtless on their journey northward. When in a boat on the creek at Husum I shot a fine adult bird out of a small flock.

TADORNA VULPANSER.

Common everywhere, both on the islands and mainland, breeding on the former in a semi-domesticated state. The natives make artificial burrows in the sand-hillocks, and cut a hole in the turf over the passage, covering it with a sod, so as to disclose the nest when eggs are required. Several females lay indiscriminately in the same nest. They are very tame, and suffer themselves to be taken by the hand while sitting. Each burrow has two openings, and is made circular in shape. There are sometimes as many as a dozen or fifteen nests in one hillock within the compass of eight or nine yards. The eggs are taken up to the 18th June, after which they allow the birds to incubate; but they never rob a nest of all the eggs, leaving one or two to avoid driving away the birds. Each person in the village generally has a burrow; and they are scrupulously honest in not taking each other's eggs. The female always covers her eggs with down before leaving the nest.

ANAS BOSCHAS.

Common on the islands and mainland.

ANAS CRECCA.

The same remark applies to this species as to the preceding.

SOMATERIA MOLLISSIMA.

Very common on Sylt, especially at the north end, furnishing a large supply of eggs to the people. Pretty common on Amrum; not observed on the mainland. We often observed

Eiders diving off the coast of Sylt, and they stayed under water for many seconds. These birds, as well as Sheldrakes, always cover their eggs with down before leaving the nest.

Of the birds included by Rafn in the paper before mentioned, the following were not seen by us:—

Muscicapa grisola.
Erithacus phœnicurus.
Erithacus titys.
Calamoherpe arundinacea.
Alauda cristata.
Fringilla cœlebs.
Pyrgita montana.
Strepsilas collaris.
Tringa minuta.
Larus glaucus.
Anser cinereus.

The last two, as the editor of 'Naumannia' noticed at the time, are manifestly introduced in error; the rest are stated by Rafn to have been but scarce. He also includes *Anthus campestris* in his list; his words are, "einzelne Paar brüten." I believe we observed this species; but as I could not satisfactorily identify it, I have thought it better to omit it from my list of species and mention it here. The facts are as follows:—On Sudfall, and again on the north end of Sylt, we noticed Pipits which, from their appearance, could, I think, only be referable to *Anthus campestris*; they were pretty common on the first-named island, rare on Sylt. Near List, on Sylt, we took a nest with three eggs amongst the coarse grass on the dunes, about two hundred yards above high-water mark, on the east coast of the island; it was formed of dry grass, the finer fibres towards the interior, and lined with a few coarse hairs; the owners, however, were not satisfactorily identified. I am sorry I cannot speak decidedly about this species; but being unable to shoot on land, we could not secure any examples, and, not being very well acquainted with the species of this difficult genus, I am unable to say more. Rafn does not mention *Anthus pratensis*. It is quite possible that his *Calamoherpe arundinacea* may have been *Emberiza schœniclus*: he says, "nistet im Rohr bei Keitum; ich bekam sein Nest mit zwei Eiern und einem Kukuksei." We observed *Emberiza schœniclus* about six miles north of Keitum amongst reeds and bushes surrounding a "Vögelkoje." Some of the other birds may cease to visit the islands, such as *Strepsilas* and *Anser*; but he was not sure whether the latter was breeding.

It is obvious that many species have decreased in numbers; and the making and enforcing of protection laws, however inconvenient to the collector, must meet the approval of all real ornithologists. In Rafn's time between three hundred and four hundred eggs of *Sterna caspia* were laid; the state of things is very different now, as my previous remarks show. On the other hand he states that ten thousand eggs of *Larus argentatus* were yearly gathered from the dunes, while the farmer who owns the northern portion of Sylt assured us that some years ago from forty to fifty thousand eggs were taken during the season. It is difficult to reconcile these apparently conflicting statements; but it is possible the present owner of the soil was not in possession of it till after 1857, and doubtless the birds increased yearly in numbers under his protective hand. At the present day, I can state decidedly that, taking into consideration the fact of the eggs being continually gathered by the natives, forty thousand would be a much more correct estimate of the number laid during the season than ten thousand; and I think it very probable Rafn was in error in his statement. It must be borne in mind that we did not visit the southern portion of Sylt, we had only time to cursorily examine the northern half of the island; and as that portion entirely consists of dry sandhills, we probably did not lose any thing by not doing so.

Mr. John Baker, of Cambridge, who visited these islands in 1861, informs me that he found *Alauda brachydactyla* and *Emberiza hortulana* there, though both were rare. I may remark that the first is not included in Kjærbölling's work, 'Danmark's Fugle,' nor as belonging to the North-German district by Borggreve in his 'Vogel-Fauna von Norddeutschland' (p. 70). I should therefore imagine Mr. Baker to be in error in this case. He also met with *Limosa ægocephala* commonly, which is indeed very likely.

Before concluding these remarks, it affords me great pleasure to express my indebtedness to Professor Newton, who, at considerable expenditure of time and trouble, gave me much desirable information concerning the objects of my visit previously to my departure from England, and also many valuable hints and suggestions during the preparation of these notes. I also owe my thanks to Mr. John Baker for advice which proved of much assistance to us, and for his communication mentioned above.

XL.—*On the Arrangement of the Families constituting the Order* Passeres. By Alfred R. Wallace.

The Passeres, as now restricted, constitute nearly three fourths of all known birds. They are wonderfully uniform in all essential points of structure, while presenting endless modifications in external form; and the points of resemblance and of difference between the several families are so numerous and conflicting that their classification still remains an almost insoluble problem. As an example of the wide difference of opinion on this point, we may contrast the views of two recent authors. Dr. Carus, in his 'Handbuch der Zoologie,' divides the Passeres into twenty-eight families, while Professor Sundevall, in his 'Methodi Naturalis Avium Disponendarum Tentamen,' has no less than 107; and there is often the widest divergence in the succession of the groups in these two systems. Eminent authors also differ widely as to the position of a large number of genera, those which are held by some to be quite unrelated being united by others in the same family. For a long time the Tyrants of America were united with the Shrikes of the Old World, while such an acute ornithologist as the late Prince Charles Bonaparte confused and intermingled the genera of Timaliidæ and Pycnonotidæ.

The characters which have been generally used by systematists in defining the families of Passeres are the form of the bill, the scutellation of the tarsi, and the varying proportions of the toes and wing-feathers; but most of these are subject to great variation in closely allied forms, and, with the exception perhaps of the second, do not aid much in determining the affinities of the various families towards each other. The form of the sternum has proved to be of the greatest importance in separating from the Passeres several groups which did not properly belong to it, and we may now (since the Humming-birds, the Swifts, and the Todies have been separated from it) consider the limits of this great Order to be pretty well determined. But within those limits this character is of little service, owing to the great uniformity of structure that prevails throughout the whole series of Passerine families. An important step was made when it was observed that a number of South-American groups differed from their Old-World analogues in wanting certain vocal muscles; and when it was found that there were corresponding external characters in the wings and feet, the separation of these families as a natural series became generally accepted. But there are great objections to the use of characters drawn from the fleshy parts of birds. It is only in comparatively few instances that they have been accurately observed; and they are for this reason of little use to the naturalist who possesses even the most extensive collection of skins and skeletons. Owing to the paucity of observations, we are also unable to determine how far the character in question is a constant one; and there is reason to believe that the larynx, the intestines, and the other internal soft parts are liable to much modification, even in closely allied forms. In order to be practically useful, the characters on which genera, families, and groups of families are founded must, whenever possible, be drawn from those parts which can be examined in every well-preserved skin, supplemented in critical cases by a reference to the *sternum*, the *cranium*, or other parts of the skeleton.

Now it is found that the Passeres with imperfect singing apparatus are also characterized by having wings with 10 primaries, the first of which is almost always fully developed, or very little shorter than those which immediately follow it; whereas all other Passeres have either 9 primaries only, or, if 10, have the first distinctly reduced below its proportionate size, and often so small as to be rudimentary and functionless. But although the character of the first primary quill was thus found to accord with a striking anatomical feature, and to mark out an important natural group of families, it was not applied to the more extensive series of families which remained, and whose arrangement has continued to this day in a most unsettled state. Hardly any two ornithologists agree as to the order in which these families most naturally follow each other; and even in the most recent classifications the peculiarities of the first primary are deemed of so little importance that birds which markedly differ in this respect are sometimes placed in the same or in adjacent families or, even, genera. After repeated attempts, during many years, to group naturally the families of Passeres, I have recently come to the conclusion that variations in the number and development of the primary quills indicate deep-seated affinities, and furnish the best, because the most simple and practically convenient, means for the further subdivision of this extensive Order. The fact that similar peculiarities of wing-structure run through whole series of families which are undoubtedly related, is a clear indication of the importance of these characters; and we shall, I think, find that if we follow them out cautiously, and give due weight in doubtful cases to other proofs of affinity, we shall be led to a grouping of this vast and complex mass of birds which avoids many of the difficulties that have hitherto beset their classification, and accords in a remarkable manner with the main features of their geographical distribution.

Four types of wing are distinctly recognizable among the Passeres. First and most numerous are those with 10 primary quills, the first of which is greatly reduced in size; then we have the American series, in which the first primary is well developed; and a small Old-World series, in which it is rudimentary; and lastly a series in which the first primary is aborted, and which thus possesses only 9 primaries. These differences may be tabulated as follows; but it is found most convenient to arrange them in the order of the appended numerals, as we thus pass most easily from one series to the other, and that order best accords with existing arrangements:—

PASSERES.

10 primaries	1st primary well developed	(4)
	1st primary reduced	(1)
	1st primary rudimentary	(3)
9 primaries	1st primary being absent	(2)

We commence with the extensive series of families possessing 10 primaries the first of which is neither rudimentary nor fully developed, but is almost always markedly small, weak, narrowed, or shortened, compared with those which immediately follow it. Our Thrushes, Warblers, and Crows are examples of this series, which consists of twenty-one families of preeminently Old-World birds. Only one of these families is peculiar to America; and that one (Vireonidæ) shows a transition to the Mniotiltidæ in the following series by having the first primary sometimes rudimentary, or even absent. Only a few other families of this series occur in South America; and only two of them, the Turdidæ and Troglodytidæ, are well represented there. The following is a list of these families:—

Series A. *Typical or Turdoid Passeres.*

Wing with 10 primaries, the first always more or less markedly reduced in size.

1. Turdidæ.
2. Sylviidæ.
3. Timaliidæ.
4. Cinclidæ (incl. *Henicurus* and *Eupetes*).
5. Troglodytidæ.
6. Certhiidæ.
7. Paridæ.
8. Leiotrichidæ.
9. Phyllornithidæ.
10. Pycnonotidæ.
11. Oriolidæ.
12. Campephagidæ.
13. Dicruridæ.
14. Muscicapidæ.
15. Vireonidæ.
16. Pachycephalidæ.
17. Laniidæ.
18. Corvidæ.
19. Paradiseidæ.
20. Meliphagidæ.
21. Nectariniidæ.

It will be observed that in this series of families every one has undoubted affinities with some others placed near it, according to the views of all those naturalists who have freed themselves from the trammels of the old *rostral* system. But when we look to the next series of families, having only 9 primaries, we find that there still exists the greatest diversity of opinion as to their true position. Every modern ornithologist, without exception, has attempted to intercalate them among the families of the first series, in some cases even incorporating them into one or other of those families, owing to superficial resemblances. In this series the first of the nine primaries is always fully developed, and often very long; and this well-marked character is found to group together a set of families which have in many cases acknowledged affinities for each other, but which offer the greatest difficulties when we attempt to locate them naturally among the families of the first series. They have also a well-marked geographical aspect, being as characteristic of the New World as the preceding series is of the Old. Four out of the ten families are exclusively American; one is peculiar to the Sandwich Islands, and has strong affinities to an American family; three others are as well represented in America as in the Old World; while the only one totally absent from America (Dicæidæ) is typically Australian—that region which has the most affinity to the Neotropical. I now give a list of these families, and will then briefly remark on their affinities:—

Series B. *Tanagroid Passeres.*

Wing with 9 primaries, the first of which is fully developed and usually very long.

1. Motacillidæ.
2. Mniotiltidæ.
3. Cœrebidæ.
4. Drepanidæ.
5. Dicæidæ.
6. Ampelidæ.
7. Hirundinidæ.
8. Tanagridæ.
9. Fringillidæ.
10. Icteridæ.

The Motacillidæ do not come well in series A; and there has been no general agreement as to their location. The Mniotiltidæ and Cœrebidæ are so closely allied that good ornithologists differ as to where some of the genera (e. g. *Dacnis, Certhiola*) are to be placed; yet they cannot be arranged with their supposed allies in the first series without widely separating them. The Drepanidæ of the Sandwich Islands, very properly distinguished from the Meliphagidæ by Dr. Sclater, follow naturally here. The Dicæidæ, consisting of the genera *Dicæum, Zosterops, Pardalotus, Prionochilus* ?, and one or two others, has always been a subject of discord, the four genera above named having been placed in the most diverse families. *Pardalotus,* for example, has been placed in the Laniidæ by G. R. Gray, in the Ampelidæ by Bonaparte, near the Leiotrichidæ and Paridæ by Jerdon, and as a distinct family near the Mniotiltidæ by Sundevall, who, however, puts *Prionochilus* far away among the Pycnonotidæ. The wing-structure, form, and habits of the three first-named genera bring them naturally together in this place; and *Dicæum* is certainly very close to the Tanagrine genus *Euphonia. Prionochilus* is a great puzzle. It possesses a minute first primary, which favours Sundevall's view of its position; but it agrees so very closely in the peculiar form of the bill and general appearance with some species of *Dicæum* and *Pardalotus,* that I cannot bring myself to separate it from them, although I acknowledge it to be an awkward anomaly in this series of families. I may here notice that the species which I described as *Prionochilus aureolimbatus,* from Celebes (P. Z. S. 1865, p. 477), has only nine primaries, and must thus be placed in *Dicæum* or *Pachyglossa,* with which latter genus it very closely agrees. I therefore cannot follow Dr. Sclater (*anteà,* p. 3) in making *Pachyglossa* a synonym of *Prionochilus.* The Dicæidæ are typically Australian, but have spread over the Oriental and even to the Ethiopian region. We next come to the Ampelidæ, which have also been a source of much confusion, having been placed next the Laniidæ, Pycnonotidæ, or Leiotrichidæ by various authors. They have been generally recognized as allied to *Pardalotus*; and indeed that genus might perhaps come into this family rather than in the last. The colouring of some of the *Pardaloti* approximates to that of *Ampelis.* The Hirundinidæ are undoubtedly very isolated; yet they assort as well in form and plumage with the Ampelidæ and some genera of Tanagridæ as with any other families that can be named, while they have the advantage of agreeing with this series in the essential features of wing-structure. The next family, the Tanagers, have affinities both with the Mniotiltidæ, Fringillidæ, and Dicæidæ, while they have no close resemblance to any family of either of the other series. The Fringillidæ and the Icteridæ naturally follow, and complete the series. The latter seem to be an extreme development of the American Fringilline or Tanagrine stock, and to have no immediate affinity to the Old-World Starlings, which they represent in a parallel group, just as the Mniotiltidæ represent the Warblers.

The third set of families we are able to separate consists of four only, characterized by possessing ten primaries, as do the typical Passeres, but with the first rudimentary and functionless. Some species belonging to other series closely resemble these; but the character never prevails throughout an entire family as it does here. This series is not very well marked; but as it best follows Series B, it is advisable to keep the families which constitute it apart. These are all Old-World groups, not possessing a single representative in the Neotropical, and but a solitary species in the Nearctic region.

Series C. *Sturnoid Passeres.*

Wing with 10 primaries, the first of which is rudimentary.

1. Ploceidæ.
2. Sturnidæ.
3. Artamidæ.
4. Alaudidæ.

The Alaudidæ form a transition from the preceding series, where they would perhaps be as well placed, the first primary being in some genera rudimentary and of varying size, in others quite absent; and this agrees with their affinity to some forms of Fringillidæ (the Buntings), which has been pointed out by many ornithologists. The Ploceidæ form a parallel development with the Fringillidæ, as do the Sturnidæ with the Icteridæ. The Artamidæ have been the subject of much discussion. They have been placed with the Swallows, the Shrikes, the Drongos, or the Orioles; but no one has observed their resemblance to the Starlings. Yet, as regards general form, the colour and character of the plumage, and the peculiar bill and nostril, they do certainly resemble some Starlings, especially the anomalous *Scissirostrum*. The form and structure of the wing is very similar to that of the Sturnidæ, while it is quite unlike that of most of the other groups near which they have been placed. We may consider them, therefore, to be a short-legged Hirundine modification of the Sturnoid type.

We now come to a final series of ten families, characterized by possessing ten primaries, of which the first is typically fully developed and very long, although it is exceptionally so much reduced as to resemble its condition in some forms of Series A. But in these cases no difficulty arises, since the majority of the family to which these birds belong possess the typical form of the series. This form is highly characteristic of the New World, to which seven of the families are exclusively confined. The other three, of small extent, are Australian and Oriental.

Series D. *Formicarioid Passeres.*

Wing with 10 primaries, the first well developed and typically long.

1. Menuridæ.
2. Pteroptochidæ.
3. Dendrocolaptidæ.
4. Formicariidæ.
5. Pittidæ.
6. Tyrannidæ.
7. Cotingidæ.
8. Pipridæ.
9. Eurylæmidæ.
10. Phytotomidæ.

About the American members of this series there is now little difference of opinion; but the three Old-World families have been the subjects of much discussion. The short-winged Pteroptochidæ would seem, at first sight, to be better placed near the Troglodytidæ, in the Turdoid series, but for their close affinity to the Formicariidæ. Yet although the first primary is short, it is always broad and about two thirds the length of the second. In the Wrens, with which these birds were formerly placed, the first primary is much narrower as well as shorter. The Australian Menuridæ must be kept close to these, as they have no other near allies. The Pittidæ are still classed near the Thrushes by Professor Sundevall; but they seem much better placed near the Formicariidæ, with which their wing-structure more nearly agrees. The Eurylæmidæ have generally been located near *Coracias* among the

Picariæ, which is certainly wrong; while Sundevall unites them in the same family with *Rupicola,* near to which genus they must undoubtedly be placed in a natural arrangement.

Now, taking the four series of Passerine birds as here arranged, we find a marked and very curious distinction between the American, and especially the typical Neotropical, fauna and that of all the rest of the globe. Of the thirteen families which are altogether confined to the New World, all but one have the prevailing character that the first quill in the wing is well developed in proportion to those which immediately succeed it; and this is the case whether there are nine or ten primaries in all. In the Old World, on the contrary, we find the prevailing character of the wing to be, that the first quill is either distinctly rudimentary, or very much reduced in size proportionally to the succeeding quills; so that out of twenty-nine families which are especially characteristic of the Old World, no less than twenty-two have this character. It is further to be noted that the seven Old-World families which have the first quill fully developed (including those with nine as well as those with ten primaries) are all of them of comparatively small extent and little varied in structure. These facts render it almost certain that the characters drawn from the condition of the first two primaries, here made use of, are really of great permanence, and therefore of high classificatory value; for if they had been less stable, and liable to frequent change from family to family and from genus to genus, it is contrary to all probability that they should present themselves with such an approach to uniformity in whole series of allied families confined to the Old and the New Worlds respectively.

Another consideration in favour of the correctness of the divisions here marked out is, that the best modern ornithologists are nearly in agreement as to the mutual relations of the families in Series A, C, and D respectively; but in the attempt to intercalate the families of Series B among the others, there has been as marked a diversity of opinion; and although the relations of several of these families to each other have been admitted, no bond of union has been detected among the whole series. This bond of union, I maintain, is found in the total abortion of the first primary quill; and although in the case of some of the families we may not see any other character to unite them, this should not militate against giving due weight to a structural peculiarity which is found to be absolutely constant throughout all the species of several extensive families, and to confirm, in many cases, the conclusions which ornithologists have arrived at from other characters. It is therefore the separation of the families constituting the "Tanagroid Passeres" as a distinct group which forms the main feature of my proposed arrangement, and in which its chief value (if any) is to be found.

As it is not always possible to determine the number of the primary quills without injuring the specimen, and not possessing duplicates of many of the requisite forms, I have in general taken the statements of Professor Sundevall to be correct. He has devoted himself for many years to the special study of the details of external form and structure in birds, and in the work already quoted has, in most cases, given the number of the primaries and the nature of the first quill. But (as I think, very unfortunately) he has only occasionally given weight to this character in his classification, which depends mainly on the varieties of scutellation of the tarsi. This latter character can hardly have the high value he gives it, since it leads to such unnatural combinations as Larks and Hoopoes, *Todus* and *Pipra, Irrisor* and *Epimachus*—errors due in great part to his refusal to give any weight to purely anatomical characters. Yet in many respects his classification is a great advance on most of those which have preceded it, since it defines every group by clear external characters, which, if not always of the value he assigns to them, will be of great service to future workers at the classification of birds.

The foregoing systematic sketch has been arrived at after often renewed attempts at a natural arrangement of Passeres, for the purposes of a work, on the Geographical Distribution of Animals, on which I have been some time engaged. The conclusions now set forth seem to me more satisfactory than any before attained, either by myself or others. They are the result of following out a simple principle of classification whose partial application has been long accepted; and they possess, I think, the merit of introducing some intelligible order into the most extensive of all the natural groups of birds, and the one whose complex and divergent affinities have always been a source of the greatest perplexity to systematists. I now submit my proposed arrangement to the kind consideration of ornithologists as one well suited for practical use until a more generally acceptable one is arrived at. In passing judgment on it, I beg them to bear in mind that I do not set up the "first primary" as an infallible guide to be blindly followed, but only as a *clue* by means of which we may sometimes extricate ourselves from the labyrinth of doubtful Passerine affinities in which we so often lose our way.

XLI.—*Dr. A. B. Meyer's Ornithological Discoveries in New Guinea.* By P. L. SCLATER.

BEGINNING in February last, Dr. Adolf Bernhard Meyer has made a series of communications to the Imperial Academy of Sciences of Vienna upon the ornithological results of his recent expedition to New Guinea. Of these, altogether six in number, we have lately received the full text, abstracts of them having previously come to hand. In the first of these[*] Dr. Meyer describes seven new species:—(1) *Ægotheles dubius*, from the Arfak mountains (perhaps = *Æ. albertisi*, Scl.); (2) *Todopsis mysorensis*, from Mysore; (3) *Chrysococcyx splendidus*, from the Arfak mountains; (4) *Ailurœdus arfakianus*[†], from Atam; (5) *Orthonyx novæ-guineæ*, from the Arfak mountains; (6) *Talegallus jobiensis*, from Jobi; and (7) *Megapodius geelvinkianus*, from Mysore. Dr. Meyer also describes the hitherto unknown male of *Trichoglossus pulchellus* of Gray, and gives other interesting remarks on species allied to those above mentioned.

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[*] "Ueber neue und ungenügend bekannte Vögel von Neu-Guinea und den Inseln der Geelvinksbai (erste Mittheilung) von Dr. Adolf Bernhard Meyer," Sitz. d. k. Akad. der Wiss. vol. xlix. 1. Abth. (Feb. 1874).

[†] I examined a skin of *Ælurœdus*, from Atam, in Sign. D'Albertis's collection, but could not distinguish it from *Æ. melanotis*.

In his second paper* Dr. Meyer describes *Monarcha kordensis,* from Mysore, *Artamus maximus,* from the Arfak mountains, and *Rectes jobiensis,* from Jobi, and gives remarks on species of *Rectes, Myiolestes, Podargus, Megapodius,* &c. As regards the Cassowaries of New Guinea, Dr. Meyer brought from the vicinity of Havre Dorey one immature and another very young example of *Casuarius,* which he cannot certainly determine. In reference to *C. papuanus* of Rosenberg, obtained near the same locality, Dr. Meyer considers it doubtfully distinct from *C. uniappendiculatus*†.

In his third paper‡ three new species of *Campephaga* are described under the names *C. montana, C. maforensis,* and *C. incerta,* and remarks are given upon other species of the genus met with. *Rectes obscura* is characterized as new; and different plumages of *R. nigrescens* of Schlegel, of which four examples were obtained, are described. Of *Pachycephala,* which is next spoken of, two new species (*P. haltamensis* and *P. affinis*), apparently allied to Pucheran's *Pteruthrius spinicaudus,* were collected, besides examples of *Pachycephala senex,* Puch., and *P. griseiceps,* G. R. Gray. Of *Monarcha* an interesting new species of the same form as *M. telescophthalma* was discovered in Jobi, and is named *M. insularis.* Of the singular Corvine form, *Gymnocorvus senex,* three specimens were obtained, two on the mainland of New Guinea and one in Jobi. They present slight differences, which are duly pointed out. The *Strix tenebricosa* of Australia is stated to have been procured in the Arfak mountains, also a single example of what is apparently the young of *Noctua hoedtii*, Schlegel.

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* With the same title (Zweite Mittheilung): Sitz. Ak. Wiss. lxix. March 1874.

† *Casuarius kaupi,* Scl. (nec Rosenb.), is undoubtedly distinct from *C. uniappendiculatus*; and I have now renamed it *C. westermanni.* See P. Z. S. 1874, p. 247. Nor can I myself understand how it is possible to confound *C. uniappendiculatus* with any other species. Even in its immature brown plumage, as shown by the living example now in the Zoological Society's Gardens, this Cassowary has a distinct median wattle.

‡ Dritte Mittheilung: Sitz. Ak. Wiss. 1874, 1. Abth. (April 16).

Dr. Meyer next turns to the Parrots, and gives some very useful remarks upon *Platycercus* (potiùs *Aprosmictus**) *dorsalis*, of which he collected a series of thirty-three examples in various parts of New Guinea. Other Psittacidæ spoken of are *Trichoglossus placens* and *T. rubronotatus*. The paper is concluded with some remarks on *Macropygia turtur*, Schlegel, and its local forms.

Dr. Meyer's fourth† memoir commences with the description of *Chætorhynchus papuensis*, a new form allied to *Dicrurus*, from the Arfak mountains. This is followed by characters of *Myiolestes macrorhynchus*, from Mysore, *Pachycephala flavogrisea*, *Malurus alboscapulatus*, and *Brachypteryx brunneiventris*, from New Guinea, and *Myiagra atra*, from Mafoor and Mysore. *Amaurodryas albotæniata*, from Jobi (perhaps, as afterwards observed by the author in his fifth memoir, not different from *Leucophantes brachyurus*, Sclater), is next described, and remarks are given upon a second species of the same genus, *A. hypoleuca*, Gray. These are succeeded by notices of various Papuan Muscicapidæ, of which specimens were obtained, and notes upon *Graucalus papuensis*, the Papuan species of *Cracticus* and *Ptilopus aurantiifrons*. The *Cracticus crassirostris* lately described by Dr. Salvadori is identified with *C. quoyi*.

In his fifth and last memoir (read June 18, 1874), Dr. Meyer treats of the Meliphagidæ which he met with, and describes *Melirrhophetes* as a new genus, allied to *Melidectes*, nobis, with two species, *M. leucostephes* and *M. ochromelas*. Two other new species are characterized as *Xanthotis poikilosternos* (lege *pœcilosternus*) and *Tropidorhynchus jobiensis*. A new *Zosterops*, from Mysore, is called *Z. mysorensis*; and two species of *Gerygone*, *G. affinis* and *G. maforensis*. *Dicæum geelvinkianum* is a new species obtained in the islands of Mafoor, Mysore, and Jobi, while *D. pectorale*, Müll. et Schl., was met with in New Guinea. Of the Nectariniine form, *Chalcostetha aspasia,* three insular varieties are recognized (in Schlegelian fashion) as stirpes, *maforensis, mysorensis,* et *jobiensis*[*]. Finally, Dr. Meyer correctly identifies *Campephaga aurulenta,* mihi, with *C. sloctii,* Schlegel, and (perhaps not so accurately) *Rectes bennetti,* mihi, with the young of *R. nigrescens,* Schlegel[†], and gives notes on *Munia tristissima, Erythrura trichroa, Melanocharis nigra,* and *Ptilopus rivolii.*

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* Mr. Garrod tells me that, as I had always supposed, the group thus denominated by Mr. Gould is structurally distinct from *Platycercus*.

† *Op. cit.* (May 16).

It will be evident therefore that Dr. Meyer's ornithological discoveries in New Guinea, have been, as was to be expected from what he had previously done in his former eastern journey, neither few nor insignificant. It is to be hoped that these memoirs are only the preludes to a complete account of his work. And I venture to express a hope that some means will be found to effect a comparison of Dr. Meyer's collections with those made in the same country by Signor d'Albertis. Of a part of these I have lately published an account[‡]; but the larger remainder are now, I believe, under examination in Italy; and the result will, I fear, be much confusion, unless steps be taken to compare the specimens in the two collections.

Besides these papers already spoken of, Dr. Meyer has described some new Psittacidæ in the Journal of the Zoological and Botanical Society of Vienna for 1873 (*Trichoglossus arfaki, T. kordoanus,* and *Pionias simplex*)[§], and in the Journal of Ornithology[||] (*Trichoglossus wilhelminæ*), and has written an article on *Eclectus*[¶] in the 'Zoologischer Garten.' In the last he endeavours to prove that the red forms of *Eclectus* (*E. linnæi, grandis, cardinalis* et *corneliæ*) are the females of the green forms, and that they all belong to *one species*! The last point is certainly not by any means proved to demonstration, although strong evidence is given in favour of the former. We have quite failed in persuading a red *Eclectus* in the Zoological Society's Gardens to agree to live with a green one, although it must be allowed that this is sometimes the case with legitimate man and wife.

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[*] A new species of the same genus from the Sangir Islands, north of Celebes, is described in a footnote as *C. sangirensis.*

[†] See remarks, P. Z. S. 1874, p. 419.

[‡] Characters of new species discovered in New Guinea by Signor d'Albertis. By P. L. Sclater, P. Z. S. 1873, p. 690.

[§] Mitth. d. zool.-bot. Gesellsch. zu Wien. 1874 (Feb.).

[||] Journ. f. Orn. 1874, p. 56.

[¶] Zoologischer Garten, 1874, p. 161.

XLII.—*On a new Species of Marsh-Warbler.*

By H. E. Dresser, F.Z.S. &c.

A short time ago Dr. Otto Finsch, of Bremen, forwarded to me two birds from the collection of Count Ercole Turati, of Milan, for determination, one of which was labelled "*Sylvia magnirostris*, Kokand, ♂, No. 9625." I compared this specimen carefully with *Acrocephalus magnirostris*, Liljeborg (which species I may here remark is identical with *A. dumetorum*, Blyth, from India), and also made a critical comparison with other allied forms, and came to the conclusion that it is a distinct and probably hitherto undescribed species. I informed Dr. Finsch of the result of my investigations, and proposed to return the specimen to him, in order that he might describe it; but he wrote in reply stating that, if I felt convinced that it is distinct, he would prefer me to do this; and I therefore propose to call it *Acrocephalus sogdianensis*, the country where it was obtained being the Sogdiana of the ancients.

This bird is more nearly allied to *Acrocephalus palustris* (Bechst.) than to *A. dumetorum*, but differs in having a longer wing, a very much larger first primary, and being much greyer in tinge. Upper parts dull olive-brown, with a greyish tinge, rather darker on the head; rump and upper tail-coverts a trifle less grey; wings and tail dull brown, the quills and wing-coverts narrowly margined with dirty whitish or pale whity brown, the tail-feathers (excepting the central rectrices) indistinctly margined with pale brownish white; the outermost rectrix, however, has this light border extending almost over the entire outer web, and this and the next feathers have tolerably broad whitish tips, the next in order having this white tip barely indicated; the tail is much less rounded than in *A. palustris,* the feathers are broader, and on one or two there are obsolete cross bars as in *Locustella luscinoides.* Underparts white; on the breast, flanks, crissum, and under tail-coverts washed with pale brownish buff; sides of the head pale brownish; from the base of the bill over and behind the eye a narrow dirty buff stripe.

Culmen 0·7 inch, gape 0·74, wing 3·0, tail 2·4, tarsus 0·85, hind toe with claw 0·45, hind claw 0·22; first primary rather broad, a trifle longer than the primary coverts, and 1·71 less than the second, which is barely 0·1 shorter than the third and about equal to the fourth, or, if any thing, a trifle less; the third primary is the longest; secondaries rather graduated, the longest about 0·72 shorter than the longest primary.

Compared with *Acrocephalus dumetorum,* it has a much longer and less broad wing, and is much greyer in shade of coloration in the upper surface of the body; and, besides, it has a much larger first primary, and differs somewhat in the arrangement of the quills; for in *A. dumetorum* the first primary is small and narrow, about equal to or rather shorter than the primary coverts, and 1·3 less than the second; second quill 0·25 shorter than the third, and about equal to the fifth, the third and the fourth being about equal, the third, if any thing, being the longest; secondaries not graduated, but even, and only 0·5 shorter than the longest primary.

Severtzoff describes a Warbler in his recently published work on the Fauna of Turkestan (Turk. Jevotnie, p. 123) under the name of *Sylvia magnirostris,* nob., which, I have little doubt, is the present species, as his description agrees precisely with the single specimen I have before me. He states that the iris is blackish brown, the maxilla dark brown, and the mandible yellowish; legs dark brown; and he not inaptly compares it to the Garden Warbler (*Sylvia hortensis*) in general tone of colour of plumage. He met with it frequenting the bush-covered localities at Karatau and in the western portion of the Thianshan range.

The following are the measurements of the present species compared with those of specimens of *Acrocephalus dumetorum* and *A palustris* in my collection :—

	Cul-men.	Gape.	Wing.	Tail.	Tarsus.	Hind toe, with claw.	Hind claw.
Acrocephalus sogdianensis.							
Kokand. Type........	0·7	0·74	3·0	2·4	0·85	0·45	0·22
Acrocephalus palustris.							
Westphalia. ♂	0·6	0·62	2·62	2·2	0·85	0·48	0·18
Antwerp	0·62	0·68	2·72	2·32	0·9	0·5	0·22
Halle, Saxony. ♀	0·6	0·65	2·65	2·2	0·87	0·5	0·22
Piedmont. ♀	0·6	0·65	2·65	2·18	0·9	0·5	0·22
Acrocephalus dumetorum.							
Ekaterinburg	0·62	0·7	2·41	2·15	0·85	0·46	0·22
"	0·62	0·7	2·41	2·1	0·9	0·46	0·22
"	0·63	0·68	2·35	2·15	0·9	0·5	0·25
S. Ural. ♂	0·68	0·7	2·38	2·2	0·9	0·49	0·25
Etawah, India	0·65	0·7	2·4	2·25	0·88	0·5	0·25
Ahmenuggur, India. ♀.	0·65	0·7	2·4	2·25	0·9	0·48	0·22

XLIII.—*Ornithological Notes made at Chefoo (Province of Shantung, North China).* By R. Swinhoe, H.M. Consul.

(Plate XIV.)

I arrived at Chefoo on the 25th April, too late for the game-market, but in time to catch the inflow of the later migrant land-birds. Few English readers will probably know where Chefoo is; so it will be as well to say something of its position on the globe before proceeding to give my ornithological experiences there. The northward coast-line of China ends at the Shantung promontory; and the land now bearing westwards discovers at a distance of about sixty-eight miles the little harbour called Yentai by the Chinese, which was opened to foreign trade by the Treaty of Tientsin of 1860, as more accessible to shipping than the port of Tengchow city (named in the treaty), which is situate about forty miles further west on the coast, and within the Prefecture of which this locality is included. The French Expedition rendezvoused here in 1860, while the British gathered their forces in Tazienwan (of the opposite promontory), preparatory to their united descent on the mud-flats of Pehtang and Takoo, at the head of the Gulf of Pehchelee. The French misnamed this place Chefoo, after the westward headland of the harbour, which is called Chefoo Head by the Chinese; but a name once affixed, be it right or wrong, it is not easy to change; and to the outer world Yentai* must for ever be Chefoo. To foreign residents in China Chefoo is more than a port of trade; it is the summer resort of the ladies and their sick lords, and has been hailed as the "Scarborough of China." I owed my incumbency there, in fact, to the state of my health. The government buildings are situate on a hill which forms the right side of the small inner harbour; on the left you have the long west beach, on the edge of a broad sand-spit, five miles long, ending in an island-like headland, named, as I have before stated, Chefoo Head; the native town of Yentai clusters in the angle between, with the foreign mercantile settlement on its right side. Below our hill, on the eastward side, stretches the east beach for two miles, finishing with the spur of a range of hills not exceeding 800 feet that closes in our valley and sweeps round to the west beach. The plain to their feet is for the most part under cultivation, and sprinkled with native villages and farmhouses. Hotels and summer residences are mostly at the foot of our hill and on the east beach; and missionary establishments lie at long distances apart on the hills at the back or among villages. The bay that expands in front of the east beach is protected six miles to seaward by a line of small islands, on the largest of which is a lighthouse, to mark the entrance to the harbour. It at once occurred to me that during the migration-time it would be useful to enlist the good offices of the keeper of the lighthouse to look out with a gun. The keeper, Mr. Campbell, an officer of the Imperial Maritime Customs, goodnaturedly promised his as-

* Sometimes written Yentai (M. D. 12,082. 9,726) or "Swallow-Terrace," sometimes Yēntay (M. D. 12,015. 9,726) or "Smoke-Tower."

To save the insertion of Chinese characters, which is no easy matter for an English printer, I have adopted the system used by telegraphers of Chinese. "M. D." signifies 'Morrison's Dictionary,' and the numbers that follow those of the characters in that well-krown work.

sistance, and, as will be seen, has done good service to science.

Until the middle of May a few Gulls were about, which I made out to be *Larus niveus* and *L. crassirostris*, a few Ducks rested about the bays, *Œdemia fusca* and *Glaucion clangula*, and a pair or two of Cormorants would fly past with outstretched necks.

On the 30th of April the market contained a Woodcock and a Spring Snipe (*Gallinago megala*), and on the 2nd May a live female Bustard (*Otis tarda*); but the game-season was past, and it was for fish that I had to visit the market. On the 3rd May three young Eagle Owls (*Bubo maximus*), just balls of down, were brought to me. They all belonged to one nest. They uttered a jingling cry when suddenly laid hold of, and clicked their bills at you when approached. Eagle Owls appear to breed throughout the hilly portions of the China coast. I have procured young birds so far south as Amoy, at Ningpo, and here again at Chefoo.

Anxious to get a view of the country, I took a sedan to where the hill-range slopes down to the west beach. The slope is exposed to the north and covered with trees planted, park-like, at some distance from each other; but such is the strength of the gales that blow, that the soil up the hill and for miles about is covered many inches deep with sand, and the trees seem to spring from a desert of sand, while the grass may be seen in vain struggling through to get a peep at the daylight. As the wood extends to the rear of the hills vegetation becomes more prominent, and the trees attain finer proportions and at length yield good timber round about some farms. This is a pretty park-like locality, and is known here by the lovers of picnics as the "Bois de Boulogne." Buds were now bursting into leaf, and the sibilant call of the far-tra-travelling Yellow-browed Warbler (*Reguloides superciliosus*) was frequently heard, and its tiny form seen springing about the boughs in pursuit of insects revivified by the returning warmth. I saw no other Warblers. Tomtits (*Parus minor*) were numerous, and noisy with their nuptial call-notes. Magpies chattered about; and almost every tall *Salisburia* *adiantifolia*, or poplar, showed a large round mass of sticks, in which the thoughts of the Magpies were for the present concentrated. But in these same uncouth masses another interest seemed also concerned, that of the Red-legged Falcon (*Erythropus amurensis*), several of which of both sexes were circling about, now fluttering excitedly with rapid beats of wing, now sailing steadily in long circles. The Red-legged Falcons had apparently not long arrived, and had not yet begun to lay; but the Magpies had in most cases callow young. I sent a sedan-coolie up a tree in the back garden of a man's house in a village to examine a Magpie's nest. When he reached the nest I called out from below and asked him what he found there. He said five red ones. Thinking that he meant red eggs I was delighted at the prospect of Hawk's eggs, and told him to bring them down. He brought down one addled Magpie's egg and five wretched red sprawling young Magpies with eyes still unopened. The owner of the property remonstrated with me for robbing a Magpie's nest. He said we owed them protection, as they put such confidence in us. They call the Magpie here Ya-tcheo. Associated with the Magpie I saw small parties of the Blue Magpie (*Cyanopolius cyana*). A specimen of the male afterwards brought to me shows a race much larger, with longer tail, than that found about Shanghai. It differs, however, only in some trifling respects in colour and markings. Doves (*Turtur gelastes*) bustled off the branches as we advanced; a Woodpecker (*Picus mandarinus*) hammered away quite close to us; an Owl (*Ninox japonicus*) flew from tree to tree on our approach; and a Goatsucker (*Caprimulgus jotaka*) showed itself lying lengthwise on a bough. Siskins and Mountain-Finches were twittering about in small parties; and Chinese birdcatchers, with their decoys in cage-traps, were lying in wait for them. From these we got a live Tree-Pipit (*Pipastes agilis*) and a Pintail Snipe (*Gallinago horsfieldi*). Common and Daurian Swallows were about the villages; and occasionally a White-banded Swift (*Cypselus pacificus*) might be seen speeding along overhead. A few Stonechats (*Pratincola indica*) were about the standing corn. We met some Quail-catchers and brought home a dozen specimens. Quails were arriving in large numbers; and many were daily caught and brought to market for sale, both for food and for fighting-purposes.

On the 9th May Mr. Campbell, of the lighthouse, sent me a female Oyster-catcher, and a few days after (15th) the male. In the female the remiges begin to show white on the shaft of the first quill; in the male on the shaft of the third. Neither has any indication of a white collar on the neck. The characters best to be relied on for a discrimination of this species from its European ally, *H. ostralegus*, are the great length of bill, and the black spots at tips of upper tail-coverts.

The Rev. W. Corbett, an American missionary at Chefoo, lent me a manuscript work by a Chinese, in four volumes, containing illustrations by hand of birds, beasts, fishes, insects, and plants. The work was picked up at an old bookstall by the reverend gentleman. It had neither title nor author's name, no preface, and no date. The drawings are coloured, and most of them life-size and recognizable, and are intended apparently to illustrate the natural objects that the artist has from time to time met with at Chefoo. The author probably intended to publish the work, but for want of funds disposed of the manuscript in the unfinished state it came into our hands. I have found it useful in supplying native names to many birds. I refer to it in the following notes as 'MS. Illustrations.'

We left Chefoo on the 20th October, as it was advised that we should fly its winter's cold. Its summer is insufferably hot, depending on the sea-breezes for refreshment; its winter, on the other hand, is extremely cold, and the gales from the sea very biting. It is true that it is open to shipping, and that the Pekin mails are landed there for overland carriage when the Peiho is frozen up; but now and again it is so cold that the harbour extending to the islands becomes one sheet of solid ice.

1. Osprey. *Pandion haliaëtus* (L.).

Mr. A. Michie, of Shanghai, on a visit to me, went out on the 15th October, and brought back a male of this species.

It was the ordinary species, which is also found throughout China. In Japan the smaller bird of the southern hemisphere is the prevalent species according to Schlegel (Mus. des Pays-Bas, *Aquilæ*, p. 22).

2. PEREGRINE FALCON. *Falco peregrinus*, L.

A pair of Peregrines were breeding on the cliffs of North Rock, according to Constable Webster. He shot both male and female on different visits to the islet. They were both in adult plumage. The male had thin yellowish *ascarides*, about 7 inches long, in the fatty tissue between its thighs and flanks. A countryman brought me an egg, which Mr. A. Newton, to whom I have shown it, agrees with me in considering the faded egg of this species. It was taken from a nest in a precipitous cliff. The Peregrine appears to be a resident species the whole length of the Chinese coast. Young birds in their white down have been brought to me at Amoy; and the species is always to be found throughout winter over Duck-marshes as far south as Canton.

3. MERLIN. *Falco æsalon*, L.

It blew hard from the south-west for three days up to the 12th May, when, standing in the veranda of our house upon the hill, I watched a party of Swifts flying past. A pair of Merlins were with them, and passed quite close enough to me for easy recognition. This is the only time I noted the species.

4. KESTREL. *Falco tinnunculus*, L.

Kestrels are not less common at Chefoo than they are elsewhere along the Chinese coast. I only procured two females, one shot by Constable Webster in the settlement, and the other by Mr. Campbell at Lighthouse Island. The first was procured on the 9th January, and is of the ordinary variety known as *japonicus*; the other dates 12th September, and is of very much larger size, with the red of the upper parts very pale, streaked and banded very broadly, has the tail very broadly barred with a comparatively narrow terminal dark bar, and very little grey on the rump and base of tail. Underparts whitish with little yellow, dark streaks on breast broad, coalescing into splashes; the tibials with conspicuous heart-shaped dark spots. Tarse and feet more delicate, the former with small hexagonal scales.

	Length.	Wing.	Tail.
Small ♀	13	9	6·88
Large ♀	15·25	10·5	8

The unusual appearance of the bird, and its very large size, made me half believe that I had got a novelty; but I have searched in vain for any structural difference, and I am forced to admit that my single specimen must be merely an extraordinary individual variety. At least we have not sufficient material for coming to any other conclusion.

5. Eastern Red-legged Falcon. *Erythropus amurensis* (Raddé).

Soon after my arrival at Chefoo, on 4th May, I made an excursion to the "Bois de Boulogne." We had not penetrated far along the avenue of tall trees that leads to it from the road when I recognized the Kestrel-like scream of this species, and soon saw a male with conspicuous white axillaries wheeling in circles in the sky above. He was quickly followed by a female. I was glad to see that this little Hawk was already here on its summer visit; and shortly after, espying a large Magpie's nest up a high tree, I had my sedan chair put down, and induced my chair-coolies to attempt climbing the long smooth pole. While my men were addressing themselves to the task I noticed the birds go several times to the nest, and my hopes were high that eggs were laid. An excresence on the bole some way up foiled my men, and they gave up the ascent. I tried a more accessible Magpie's nest on the way home. A pair of Red-legged Falcons were hovering near; but the parent Magpies were about too. The nest contained only callow young Magpies. A few days later, in the garden of a missionary living in the country at some distance from the town, I noticed a female Falcon fly from the top of a Magpie's nest. I sent a man up, but he found the nest empty. With all my efforts I did not succeed in getting either an egg or a downy chick.

In a dry watercourse, or "nullah," about a mile from the settlement, there were some fine trees, in which there stood the domed nest of a Magpie and the small open nest apparently of a Blue Magpie. Both of these appeared to be occupied by Red-legged Falcons; and there were some two dozen of them about. The trees were difficult to climb, and we could get no native to attempt them; so we contented ourselves with shooting a male and female, and a young male in moult.

The old male had very large testes, the young male smaller ones; but evidently both were engaged in breeding. The female had small eggs containing yelk. Their stomachs were crammed with bits of grasshoppers saturated with a pink juice. I must here remark that the food of this Falcon is by no means restricted to insects. My former experience in Talien Bay (see Ibis, 1861, p. 253) shows that they are no strangers to bird-flesh; and even in Chefoo they are reared and trained for hawking small birds, for which they would certainly be useless were they purely insectivorous. On the 22nd August I bought from a native two yearlings of this species that were being so trained. Their ceres and legs were yellow, the former dull; their irides black.

6. Black-eared Kite. *Milvus melanotis,* Temm. & Schleg. Fauna Japonica.

Kites did not appear abundant about us till July. They were probably engaged up to then in breeding about the cliffs of the islands to seaward. I was told that they were always to be seen at this time over the lighthouse island, Kung-kung-tan; and Mr. Campbell sent me word that nothing bred on the cliffs of his island but Hawks of this description. On a visit to our settlement on the 4th October he shot one of these so-called Hawks, and brought it to me. It was an adult male, measuring 25 inches in total length; wing 16½, falling 5 short of tail-tip; under tail-coverts also 5½ short of same. Tail 12 inches, not much forked, the outermost rectrix 1 inch longer than the centrals. Belly and breast ochreous, with pale streaks; its iris was brown, and the base of the bill greener than usual. Feet bluish white, with a very slight tinge of yellow.

7. Goshawk. *Astur palumbarius* (L.).

Mr. Campbell, of the lighthouse, brought me on the 10th October a yearling of this species which he had shot about his premises the day before. The Hawk carried off one of his chickens. He shot it and redeemed his property, but in a lifeless state. I did not at the time know the undress of the Goshawk, and was puzzled about the species, thinking that I had got a large female of our Formosan *Astur virgatus*. The specimen before me had a brownish upper dress, with broad bands to its tail, and a small pointed occipital crest. Its bill was blackish on the culmen, bluish at the base. Cere and round eye greenish; rictus yellow; iris pale yellow. Legs and feet greenish yellow; claws black. When I showed this Hawk the other day to Mr. R. B. Sharpe, he recognized it at once as the immature of the Goshawk, and said he had seen small crests in European specimens. I obtained the Goshawk before at Pekin in complete plumage (see P. Z. S. 1871, p. 341).

8. Sparrow-Hawk. *Accipiter nisus* (L.).

A female Sparrow-Hawk was brought to me on the wrist by a native. He was training it for hawking.

9. Stevenson's Hawk. *Accipiter stevensoni*, Gurney.

Throughout May in my country rambles I would frequently meet natives carrying Hawks on their wrists. This species was in the greatest request. How the natives caught these Hawks I do not know; but the birds they were training were invariably males more or less adult. They did not know the female. I only once came upon a man actually engaged in hawking. His Hawk had captured two small birds (*Locustella lanceolata*); and the owner seemed very proud of the feat accomplished by his "élève." He had a cap for his bird surmounted by a crest of feathers, much like the "Falcon's hood" used in Europe, and a bell on the tail at its base, with a few strips of red and blue cloth pendent. When the bird shook or flew the bell tinkled. An adult male measured 10 inches in length. Wing 6·6, the tip of the main quills extending 1·4 beyond the tips of the tertiaries, and 2·1 short of the tail-tip; 1st quill 2½ long, 2nd 1·35 longer, 3rd ·88 longer again, 4th ·3 longer still, 5th ·15 shorter than the last, which is the longest in the wing. Tail 4·5 long, laterals rather shorter than the centrals; under tail-coverts 2·4 short of tail-tip. Tarse 1·6; middle toe 1·2, its claw ·35; claws thick at base. Bill greyish-blue, black on the apical half. Cere, base of lower mandible and angle of bill, skin on upper orbit and round eye, greenish yellow. Iris crimson. Legs greyish-green on upper surface of tarse, greenish chrome-yellow on under surface. Feet chrome-yellow, greenish on edges of scales. Claws rich black.

A younger male measured in length 10·4; wing 6·6; tail 4·6. Bare tarse 1·6; middle toe 1·2; its claw ·3. It was rather yellower on the toes than the last, and had the upper orbit dark grey; iris yellowish crimson. A little green marked the culmen of its bill and the angle of its mouth. The tarsus in both birds was scarcely broader than the hind and inner toes.

The last bird got loose in my sitting-room and tore to pieces the skin of a Quail, thinking to find flesh within instead of cotton wool and preservative.

I never saw this Hawk in my rambles in the country; and as the country-people carried only males, I almost despaired of getting a female. Here, again, Mr. Campbell, of the Lighthouse, came to my assistance. He sent me one or two specimens of the bird from his island, and at length on the 10th October an immature female. In this the iris was plain yellow, and the upper surface of the legs and feet greyish-green, the under surface being yellowish, the claws black, brownish at their bases. The upper plumage is brown, darker on the head, and lighter on the tail, the feathers edged with brownish chestnut, the tail tipped with brownish white, and banded with four broad brown bars, the basal one of which is hidden by the upper tail-coverts. Its underparts are white washed in parts with greyish cream-colour. A central line of long black drops marks the chin to the breast, where the drops get larger and more extended. The axillaries are more decided cream-colour, with blackish-brown spots; the under quills splashed with reddish cream obscurely barred with brown; the sides and belly barred with reddish brown; the tibials more closely and narrowly with a greyer hue of same; the under tail washed with white and barred with narrow bars of brown; the vent a pure white. Total length of skin about 13 inches; of wing 7½; of tail 6·3.

The same good friend sent me a few days before a young male in the immature plumage. This had the iris also plain yellow and the legs much greener than in the adult.

I cannot, I am sorry to say, speak with certainty as to whether this species breeds about Chefoo. I never saw it so engaged; the ardent native falconers were never met with young birds in training; and the immature birds had plenty of time to be on their return migration from the Corea, or Mantchuria. The organs examined of the spring arrivals were well advanced; and it is not impossible that a few halt *en route* to carry out the golden law, while the majority of their race push northwards.

10. Brown Hairy-footed Owl. *Ninox japonicus* (Temm. & Schleg. Faun. Japon.).

On the 13th May, when rambling through the "Bois de Boulogne," we put up two of this Owl. They flapped to the cover of neighbouring trees. My Chinese servant went after them with a gun; but the birds were too sharp for him. These Owls were on their northward migration, and on the 21st Mr. Campbell sent me one from the Lighthouse island. It was a male and measured 12 inches; wing 8·3, first quill 1·9 shorter than the second, which is ·6 shorter than the third, which with the fourth are the longest; wing-tip falls 1·2 short of tail and 1·8 longer than the tertiaries. Tail 5·3 long, of 12 nearly equal feathers. Cere and bill greenish. Iris yellow. Feet yellow, sprinkled on their upper surface with bristles, and covered on their soles with thickly packed long yellow papillæ. Claws long, sharp and black. Tarse bare only round the ankle; middle toe 1·2, its claw ·55.

On the 28th Mr. Carles, from the Legation at Pekin, who was staying with me, went to the "Bois de Boulogne" and brought back another male *Ninox*. This also had somewhat small testes, as if not ready yet for breeding. Its stomach contained the remains of insects, together with whole undigested eggs of *Cimicidæ*.

On the 15th October Mr. Campbell sent me a female. It is larger than the male; the spots on its underparts more expanded and running into one another, and its tibials and belly banded. They were now bound on the southward migration.

The northern race of Brown Hairy-footed Owl, is certainly much larger than specimens I procured near Amoy and in Ningpo and in Hainan. They are deeper-coloured and less rufescent; but the differences are too slight to be considered specific. It is curious that in a migratory species such differences should occur.

11. GREAT HORNED OWL. *Bubo maximus.*

Three downy young of this fine Owl were brought to me on the 3rd of May. They all came from the same nest. Their eyes were much smaller than in the adult, with iris comparatively narrower and pupil larger. Bare tips of toes lemon-yellow, soles yellowish. I have an adult female from Chefoo. It is much paler than specimens from Amoy, though otherwise similar. It breeds also in the neighbourhood of Amoy; for many years ago, when domiciled in that southern port, a couple of downy young were brought to me that had been taken from a nest somewhere in the neighbourhood.

12. SMALL HORNED OWL. *Scops sunia,* Hodgs.

The first I saw of this species was a female sent by Mr. Campbell from Lighthouse Island on the 25th September. It was 7¾ inches long; wing 5·65, ·7 longer than the tertiaries, ·7 short of tail tip, first quill 1 shorter than the third and longest, second ·25 shorter than third. Tail soft and hogged, 2·5 long. Iris golden yellow. Bill yellowish grey; inside of mouth flesh-colour. Bare toes brownish grey, hoary on the scutes, joints, and soles; claws light yellowish brown. Dissection displayed a small cluster of eggs, and its stomach the remains of beetles and caterpillars.

In the beginning of October I received a male of the same from M. A. Fauvel, a French gentleman engaged as Assistant in the Imperial Customs, who had bought the bird from a native, and kept it alive for some days. This specimen measured in total length 6½; wing 6, extending to end of tail, 1·15 longer than tertiary tips. Tail 3, soft, hogged and rounded, plumage brown, splashed with rufescence. Bill yellowish grey. Eyelids light yellowish brown. Iris fine yellow. Feet brown, with whitish edges to scutes, ochreous on sides; claws light brown. The female bird before noted had no rufescence; and I think, as a rule, males are oftener so distinguished than females. I have a rufescent specimen from Hakodadi without such markings, collected by Mr. H. Whitely, that is of much larger size than any of my examples from China. The total length of the skin is about 7¾ inches, of its wing 6½. The Hakodadi bird may be the *Scops kennicotti*, Elliot, procured before in Alaska (see Trans. Chicago Ac. Sc. 1869, p. 331.

13. Long-eared Owl. *Asio otus* (L.).

Quite a fall of these occurred in the first week in October on their southward migration. I got five specimens from Lighthouse Island of both sexes, all more or less rufescent. Their wings slightly exceeded the tail in length. The ear-conch was enormous. Bill and claws blackish brown; tips of toes grey. Iris orange-yellow. Inside of mouth flesh-colour. In Shanghai, on the 1st November, my brother John shot another in a wood outside the town. All the specimens are much like home birds.

14. Goatsucker. *Caprimulgus jotaka*, Temm. & Schleg. Faun. Jap.

On the 4th May we saw two of this species in the Bois de Boulogne. The ground was covered with sand; so they roosted conspicuously along the thick branches of trees. They were disturbed by our passing under, and flew to adjoining trees. They must have rested with their eyes open in such exposed places.

15. White-rumped Swift. *Cypselus pacificus.*

Swifts were at Chefoo before us, and were to be seen every fine day flying in parties high in the air, and in cloudy weather darting about near houses and round the summits of hills. At sundown I noticed they went seawards, and roosted in the cliffs that bordered the sea. On the 22nd June, Constable Webster went out collecting for me to the North Rock, a small rocky islet about fifteen miles to seaward of the harbour. He found the island girt with rocky cliffs, which he had much difficulty in scaling by means of the oars of the boat. On the top, about 100 feet elevation, was a grassy flat. In the clefts and crannies of the rocks he found many nests, off which he poked the owners, and brought to me a dozen of them alive in a cage. They were individuals of the bird under notice of both sexes (five males and seven females), showing that both males and females take their turn in incubation. Some of these had an extraordinary four-winged gad-fly about their feathers. The nests were small for the size of the bird, shaped like three-quarters of a saucer, with its broken side adhering to the rock, and in some cases resting its under surface on a projecting ledge. One was apparently a nest of the year, consisting of a shallow saucer, nearly 4 inches in greatest breadth, thicker behind than in front, and constructed of refuse straw and a few bits of catkins and feathers, all strongly agglutinated with a gelatinous matter, doubtless the bird's saliva. Another was perhaps the accumulation of six years, consisting of six nests one placed above another and strongly glued to it. Fucoids and a little earth formed the foundation of the lowest of the series. The eggs contained in all were two in number, the fresh ones pinkish white until blown, when they became an unpolished white. Many were hard-set, containing advanced embryos, and then showed externally dull white. They average in length 1·2 inch, by ·7 in breadth. This species figures in the MS. Illustrations as the "Iron-footed Swallow." Pallas (Zoograph. Rosso-Asiat. i. p. 539) decides after some hesitation to consider this only a var. β of *Cypselus apus,* and speaks of its breeding in company with the Black Swift in abundance on the rocks about Lake Baikal. Had he compared the nests of the two so-called varieties, he would not have doubted long as to their specific distinctness. It is worth noting how closely the nest of our bird resembles that of the *Collocaliæ*! The Black Swift of Peking does not appear to visit Chefoo. It breeds at Pekin, building in the holes of buildings a loose nest like that of a Sparrow.

16. Hirundo gutturalis, Scop.

Swallows of course had arrived before we did, and were as familiar and as trustful of man as in the south. On the 4th May I noticed one out of a party flying over a village that had a bright *red* tail. This, I fancy, must have been due to some prank played on it by native boys. This is figured in the MS. illustrations as the "Hill" or "Rustic Swallow."

17. Cecropis japonica, Bp.

The Daurian Swallow was not behind its congener; and wherever the one was to be seen, the other was not far away.

Their modes of incubation are different, and I have never seen their nests near together; but their methods of food-hunting attract each other, and thus they get associated. Every afternoon they were to be seen about our hill; and I soon observed that they were not of the northern form that resorts in summer to Peking, my *C. arctivitta*, but the larger broad-banded species of the south, as above named. The acquisition of a male, shot by my friend Mr. Carles, on the 23rd May, proved that I was right in my surmise. It measured in total length 6·75 inches; wing 4·5, first quill a little shorter than the second and longest, 2·2 longer than the tertiaries, 1·4 short of tail. Tail 3·7 long, outer rectrix 1·9 longer than centrals. Male on dissection; testes much enlarged. On the 26th of the same month the same friend shot a pair of this species. The female had the red nuchal collar broken at the back, the sides of the nape less rufous, the wings shorter, the long rectrices of the tail narrower, with a faint whitish spot on each of them, thus differing from the two males.

This form of Daurian Swallow would appear, then, to be the coast-species. It is figured in the MS. Illustrations as the "House," or "Domestic Swallow."

18. Alcedo bengalensis (Lath.).

I never met the little King of the Shrimp in my rambles about Chefoo; but native birdcatchers occasionally brought live examples. Figured in the MS. Illustrations as the Tsuycheo (M.D. 11197, 10794), or Turquoise bird. A group of five of *Eurystomus orientalis* is figured in the same Illustrations, but without name.

19. Hoopoe. *Upupa epops*, L.

I saw a Hoopoe in a cemetery at the foot of the hills, where it probably had its nest. In flying up to a tree it threw a summersault. On the 19th May Mr. Crasemann sent me a female that had died in his aviary. Native name Poo Kuhneao (M.D. 8661, 6564, 7946), or Grain-distributing Bird. He had procured it from a native birdcatcher only a few days before. A Wren is figured in the MS. Illustrations, but without Chinese name.

20. Eastern Reed-Thrush. *Calamodyta orientalis* (T. & S.).

I know of no reed-abounding marshy places at Chefoo such as we have at every other port I have been stationed at. Hence at this place there was no such cover as this summer visitor loves, and the specimens that disported on Lighthouse Island were evidently migrants passing over to more suitable localities across the Gulf of Pechelee. Mr. Campbell procured three or four specimens of both sexes in the beginning of May, and one or two early in June.

21. Moluccan Smoky Reed-Thrush. *Calamodyta insularis* (Wall.).

Two males and one female of this Reed-Thrush were procured by Mr. Campbell on Lighthouse Island on the 3rd June. They were severally well developed and ready for breeding, and could not have had very far to go for their summer quarters. In my "Revised Catalogue of the Birds of China" (P. Z. S. 1871, p. 352) I mention that this Moluccan species occurred at Amoy in numbers in May. Twenty days later they were passing Chefoo; and probably many summer in the Corea. The allied *C. fasciolatus*, G. R. Gray, did not turn up at Chefoo. I stated before (*l. c.*) that one of these last was sent from Lake Baikal. It is odd that these two allied species should meet to winter in the Moluccas. I extract from my notes on the fresh bird :—"The fat that abounds on the rump of birds in migration had in these nearly disappeared. The testes of the males were whitish and much swollen. The female was somewhat smaller than the males, was less smoked on the underparts, and had a lighter bill.

"♂. Rim round eye yellowish. Bill on upper mandible blackish brown, with yellowish edge ; inside of mouth, rictus, and basal half of lower mandible chrome-yellow, the last brownish towards tip. Legs, toes, and nails light flesh-brown, darker on the toes.

"Length 7·1 inches. Wing 3·25, ·85 longer than tertiaries, 1·96 short of tail ; first quill diminutive, second ·1 shorter than the third and longest. Tail 3 inches, of twelve much graduated pointed feathers, outer one shorter than centrals. Under tail-coverts 1·08 short of tail-tip. Tarse 1·1 ; middle toe and claw 1·06 ; hind toe and claw ·68. Bill in front ·65, from gape ·95."

22. Mock Nightingale. *Arundinax canturiens,* Swinh.

Mr. Campbell brought me a specimen of this on the 15th October. It was the only one I saw at Chefoo. On the 29th October I got a male at Shanghai. I would call it a vagrant rather than a migrant species. I will resort to Blyth's generic name for this group, as I find his type, *A. olivaceus* (=*Turdus aëdon,* Pall.) (*cf.* P. Z. S. 1871, p. 353) is as much a bush-lover as any of ours, and not a reed-skulker. His genus has priority, though the name is any thing but apt.

23. David's Small Mock Nightingale. *Arundinax davidianus,* J. Verr.

In my "Revised Catalogue" (P. Z. S. 1871), under *Herbivocula flemingi,* I allude to this species as one of two sizes in the Paris Museum from Pekin. Mons. J. Verreaux described it under the above name with Père David's novelties from Moupin (Chinese Thibet, to the north-west), (Nouv. Arch. du Muséum, t. vi. (1870), p. 37. no. 18). I cannot understand the mistake, as Verreaux showed me the specimen mounted in the Museum, as also coming from Pekin, and asked me whether I considered it distinct from the smaller form, another mounted specimen, which I recognized as my *A. flemingi.* Yet Verreaux writes (Bull. p. 4), "c'est encore du Moupin que provient l'unique sujet mâle que possède le Muséum, et qui fut tué en avril 1869 par M. A. David."

On the 22nd May, at Chefoo, native birdcatchers brought me a small *Arundinax,* like my *A. minutus,* but of a rather larger size, with the throat coloured as the breast, and with only a very little reddish on the forehead. I took the following note on its appearance when fresh. It was a female on dissection :—

"♀. Length 5·4 inches. Wing 2·4; fourth and fifth quills equal and longest, 1·4 short of tail, ·5 longer than tertiaries. Tail 2·4, graduated. Bill ·4, to gape ·7. Tarse ·95. Middle toe and claw ·68; hind toe and claw ·5. Iris deep brown. Bill brown, pale on *tomia,* and flesh-coloured at base. Legs and feet brownish flesh-colour; claws light brown."

24. DIMINUTIVE GRASSHOPPER-LARK. *Locustella lanceolata,* Temm.

In the last half of May this species arrived in numbers, and almost every bush and patch of coarse grass on our hills had its denizens. One perched on the window-sill of my sitting-room, and hopped along most tamely, throwing up its tail and twitching its wings, but uttering no note.

On the 31st Mr. Campbell sent me three pairs from Lighthouse Island. Their sexual organs were small and black, and the fat about the rump was abundant, suety, and hard, showing that they were still "on the move." I took this note on a fresh female :—

"♀. Length 4·7 inches. Wing 2·28; first quill diminutive (varies in size); second rather shorter than the third, which is the longest, ·34 longer than the tertiaries, 1·3 short of tail-tip. Tail 1·95, much graduated and wedge-shaped, outer ·7 short of centrals, and covered by under tail-coverts, which run ·45 short of tip. Tarsus ·65 in front; middle toe and claw ·75; hind toe and claw ·62. Bill in front ·37, from gape ·65."

On a further study of Cassin (Proc. Acad. Sciences, Phil. 1856, p. 194) I feel convinced that his *Lusciniopsis hendersoni* refers to this species, and not, as before supposed, to my *L. macropus*. Lord Walden has received this little wanderer from the Andaman Islands.

25. Creeper-coloured Grasshopper-Lark. *Locustella certhiola* (Pall.).

The first I got of these was on the 20th May, when some native birdcatchers brought me a male. It was sexually well advanced, and, strange to say, had its tibial tendons fleshy and not osseous, as in all our other Chinese species of Grasshopper Lark. So constant did I find this character that I began to think it generic. In plumage, it is true, this species has a tendency towards *Cisticola*; but in habits it is nevertheless a true *Locustella.*

♂. Very flat on the forehead, straight in line with the bill. Legs and feet flesh-brown. Bill light brown, black on culmen and tip. Length 5·5 inches. Wing 2·65, its tip falling 1·6 short of tail-tip, ·55 longer than tertiaries; first quill ·3 shorter than the second, which is the longest, and exceeds the third by ·1. Under tail-coverts ·45 short of tail-tip; upper tail-coverts 1·1. Tail 2·2 long, the outer feathers being ·8 shorter than centrals, of twelve much graduated feathers, five on each side being mucronate at their tips, the two centrals pointed. Tarse in front ·77; middle toe and claw ·87. Claws long. Bill from forehead ·52, from gape ·72.

On the 31st May Mr. Campbell sent me three from Lighthouse Island, and on the 25th June I came upon one in my garden flitting from plant to plant.

26. Wanderer Willow-Wren. *Phyllopneuste borealis,* Blas.

On the 31st May Mr. Campbell sent me a host of these, no less than twenty-three specimens. When I next saw him he told me that for a day or two the trees and bushes in his island literally swarmed with this bird; and I frequently noticed it at the same time in Chefoo. It disappeared as suddenly as it came.

27. YELLOW-BROWED WARBLER. *Reguloides superciliosa* (Gmel.).

On our arrival at Chefoo at the end of April the weather was still fresh, and the trees only just budding into leaf. This little winter visitant was still there among the trees, and soon made its presence known by its loud plaintive call-note. On the 4th May, while on a ramble in the so-called "Bois de Boulogne," I watched one springing joyfully about among the slender green-tipped sprigs of a willow, and thought how apt was its Chinese name *Lew-yung* (M. D. 7210, 12640), or "Exuberance of the Willow."

28. ROBIN BLUETAIL. *Ianthia cyanura* (T. & S.).

A few of these passed to their more northerly breeding-stations.

29. BLUE-AND-WHITE ROBIN. *Larvivora cyane* (Pall.).

These passed up plentifully in May, and I got a goodly series from the birdcatchers. The female is much like in colour of plumage that of the female Narcissus Flycatcher, *Xanthopygia narcissina* (T. & S.), having the upper parts brownish olive, the wings and tail brown, and the underparts fulvous, strongly so on the throat and breast, with dark margins to the feathers. Males in full plumage were comparatively rare, most of them having brown wings and tail, fulvous flanks, or some signs of immaturity about them. I procured one nearly complete albino (a female on dissection) with flesh-white bill and legs. It was presented to me by Mr. Crasemann, who bought it alive a few days before from a birdcatcher.

The males have a short pleasing song. Native name Lanteen-rh or Blue-dyed.

30. ROBIN REDTHROAT. *Calliope camtschatkensis* (Gmel.).

Numbers of these also passed northwards in May; and, judging from the backward state of their organs, I should say that they still had a long way to travel. The male has a rich ruby throat; in the female this is white. I ascertained the sex of six with white throats. It is true that at Amoy I found males with white throats also; but occasionally the occurrence of a red feather in its midst proved that the white throat was also the dress of immaturity. Pallas (Zoograph. Rosso-Asiat. i. p. 483) states that both sexes have the red throat. An old female might occasionally possess it.

31. Lesser Ox-eye. *Parus minor*, Temm. & Schleg.

I both heard and saw this species in the "Bois de Bologne," and subsequently got a specimen, which did not differ from the birds at Ningpo. It is the only Tit I met with at Chefoo. Figured in the MS. Illustrations as Tche-tche-kang, a name without meaning, probably in imitation of its notes.

32. Moluccan Titlark. *Anthus gustavi*, Swinh.

Imagine my surprise when, on the 31st May, Mr. Campbell, of Lighthouse Island, sent me fourteen of these Pipits, amongst them six males and five females. I had found them before at Amoy one spring, passing through in large numbers; but I had then no clue as to where they went. In a day or two they had all vanished from Chefoo. Judging from the nearly equal number of the sexes procured, I should say the two travelled in company, which is rarely the case among birds, the males generally preceding the females. Besides, northwards, this species must have another line of route through China; for since I have been in England this time, Mr. Sclater sent me a specimen of this Pipit, received from M. Taczanowski, of the Museum at Warsaw, to whom it was sent from Lake Baikal by Dr. Dybowski. I took this note from a fresh Chefoo specimen:—

"♀ Length 5·85. Wing 3·28; first quill the longest, second and third *gradatim* slightly shorter, 1·15 short of tail-tip, ·85 longer than tertiaries. Tail 2·18, of twelve feathers, and a little forked. Tarsi in front ·85; middle toe and claw ·85; hind toe ·45, its claw ·47. Bill in front ·45, from gape ·7.

33. Eastern Tree-Pipit. *Anthus agilis*, Sykes.

The only specimen I got of this Pipit was taken on the 4th

May by a birdcatcher in the "Bois de Boulogne." A Pied-Wagtail is figured in the MS. Illustrations as "Ho Yatcheo" (River-Magpie).

34. Pale-eyebrowed Thrush. *Turdus obscurus*, Gmel.

At Amoy I procured two sizes, large and small, of this winter-wandering Thrush, which strays at that season as far south as Malacca. At Chefoo I procured in May a male of each size. This seems to be the species given by Pallas (Zoograph. Rosso-Asiat. i. p. 457) as *Turdus pallens*, and described by him only in the winter plumage, though he states positively that it passes the summer in the copses around the rivers of Dauria, and in the mountain-woods around Lake Baikal. Temminck identified certain specimens procured in Europe with Pallas's bird; then at a later date he confounded *T. pallens* with his *T. daulias* of Japan. In Europe, I presume, they have only occurred in their winter plumage, as they do in Malacca (*T. rufulus*, Eyton). In spring the head and neck become blackish grey, the chin and upwards to lower eyelid and the superciliary mark being white, the rest of the plumage unaltered. The present is a wandering species; and its occurrence in Europe is what one might expect; whereas *T. daulias* is only a local migrant. There is as much as an inch difference in the comparative length of the two races of *T. obscurus*, and sometimes even more; but I can find no corresponding difference of plumage to warrant their separation. The light tips to the greater wing-coverts, and the white tips to the outer tail-feathers, are by no means constant. Sometimes both are plainly present; at others, one set, or often both, are entirely absent.

35. Siberian Thrush. *Turdus sibiricus*, Pall.

For some days towards the end of May these Thrushes were about our hills, apparently bound north. On the 22nd Mr. Carles shot three males, all sexually well advanced. I took the following note on a fresh specimen:—

"♂. Length 8·5. Wing 4·76; first quill ·75 long, second ·18 shorter than the third and longest, 1·7 short of tail-tip, 1·5 longer than tertiaries. Tail 3·5, of twelve nearly equal pointed feathers. Bill ·9, to gape 1·15; blackish yellow inside of mouth. Legs and toes brownish-yellow, browner on the scutes and claws. Iris blackish-brown."

Mr. Campbell, of the Lighthouse, sent me a female on the 3rd of June:—

"♀. Length 8·6. Wing 4·5; first quill ·78; second ·2 shorter than the third, which is the longest, 1·85 shorter than the tail-tip, 1·5 longer than the tertiaries. Tail 3·4 long; outer rectrix ·35 shorter than the central, all mucronate. Tarse 1·05; middle toe and claw 1·2; ochreous yellow throughout. Bill ·87, from gape 1·05; upper mandible and apical half of lower blackish brown; basal half of lower and inside of mouth yellowish. Plumage olive-green above, spotted with same below."

36. GOLD-SIDED GREY THRUSH. *Turdus chrysopleurus,* sp. nov. (Plate XIV.)

On the 15th May Mr. Campbell sent me, among other birds, a new Thrush which he had just shot on Lighthouse Island. It was a good deal battered; was a male on dissection, with enormous testes.

Total length about 9 inches. Wing 4·7; first quill ·35 shorter than the second, which, with the third, is the longest in the wing; fourth ·1 shorter; wing-tip 2·15 short of tail-tip. Tail 3·4; under tail-coverts 1·2 short of its tip. Bill from forehead ·82, from gape 1·05. Tarse 1·23; middle toe ·9, its claw ·28. Bill, inside of mouth, and skin round eye orange-yellow. Legs and toes the same.

This is the only specimen that turned up at Chefoo; and I was disposed to think that it was a straggler from Corea; but I have seen a very tolerable drawing of it among some sketches of native birds; so it may be commoner in other parts of this Province. It is called in the sketch "Hwuy-ke" (M.D. 4523, 5315) or Ashy Fowl. The nearest ally among the Indian Thrushes to this species that I have seen is one shown me by Lord Walden, *Geocichla tricolor,* Hume, which differs from ours in having the upper parts black instead of grey. The female of *G. tricolor* resembles closely the female of *Turdus dissimilis,* Blyth.

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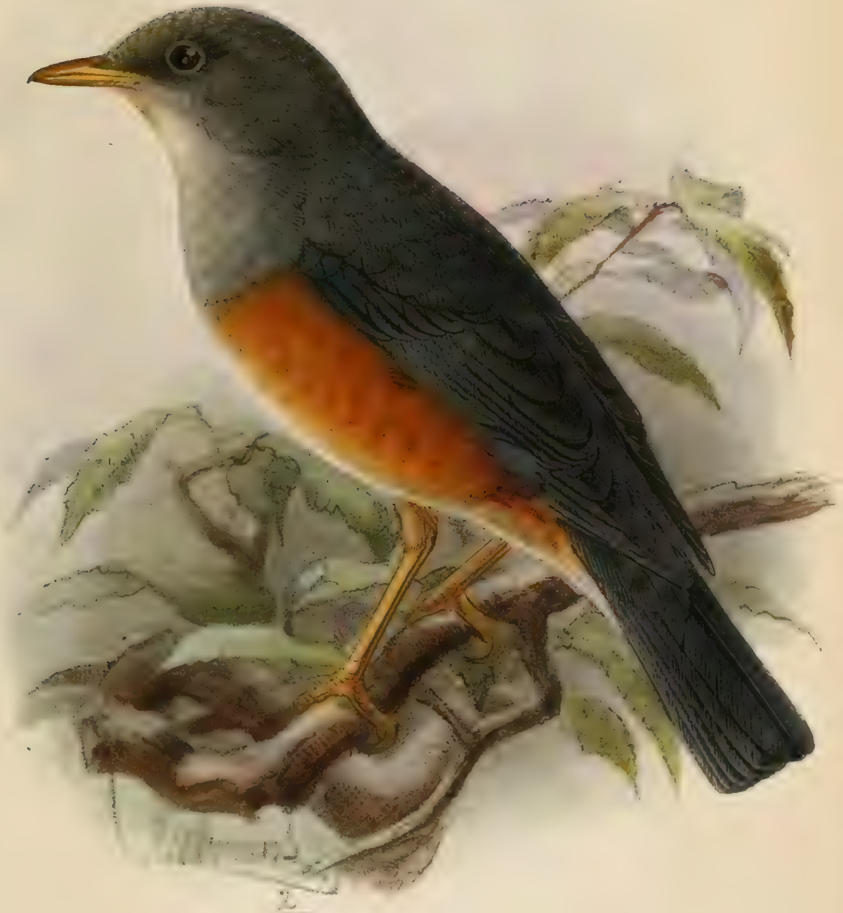

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M & N Hanhart imp.

TURDUS CHRYSOPLEURUS

AMERICAN MUSEUM
CENTRAL PARK,
NEW YORK.
OF NATURAL HISTORY.

37. White's Thrush. *Oreocincla varia* (Pall.).

The only specimen I procured of this Thrush was brought by Constable Webster on the 6th October from Kung-kung-tan, or Lighthouse Island, whither he went the day before for a little outing with his gun. It was a male, and had the inside of its mouth orange-yellow. Legs and toes flesh-colour. Tail of fourteen feathers, the outermost ·5 shorter than the centrals.

38. Blue-and-red Rock-Thrush. *Monticola solitaria* (P. L. S. Müller).

These came about the rocks of our hill in the neighbourhood of our houses in August, when I procured a male, which is of the size and brightness of the typical bird of northern Japan. It had apparently finished nidification for the season, but still bears many marks of juvenility about it. The feathers of the head and hind neck are margined with blackish and grey, those of the back, upper wing-coverts, and rump with black and whitish, of the wings and tail with whitish, and of the underparts with black and whitish. The ground-colour of the upper parts and breast is greyish blue, of the axillaries and remaining underparts dark chestnut. A bird procured before from Tientsin was of the same typical form and colour. The young markings seem to be retained till the second year.

39. Waxwing. *Ampelis garrulus*, L.

Waxwings had been taken in Chefoo before our arrival; but we did not see any flying about during our stay. Many natives in the place had them in cages. It is figured in the MS. Illustrations as the Hwai-ke (M.D. 4236, 5315), or "Cedar Fowl."

40. Chinese Oriole. *Oriolus chinensis*.

Orioles passed Chefoo, but not in any number. Some stayed to breed. In May I received a male, in breeding-order as far as the sexual organs were concerned, but still somewhat whitish on the underparts, with the the long dark spots of immaturity, with the upper parts washed with green, the nuchal black band not fully developed, and the bill brownish.

This was probably the offspring of a late last year's nest; but it goes to show that males as well as females of this species breed in immature plumage. I procured a nestling on the 12th July. This has a brownish bill, with light leaden-coloured legs and claws; the underparts yellowish white, with black-spots on the breast and belly. Back and crown green, with blackish centres to the feathers, a yellowish band stretching across the occiput. Wing-coverts dark green on outer webs, black on inner with yellowish tips; quills black edged whitish, their coverts with dark green and tipped with yellow; secondaries black on inner webs, and along inner half of outer webs. Tail-coverts greenish yellow, rectrices black, with large yellow terminal spots. On the 15th September I obtained a pair of adults. The female is rather larger than the male, and can at once be distinguished by her greenish mantle.

41. NYMPH GROUND-THRUSH. *Pitta nympha,* T. & S. Faun. Japon.

On the 13th August a *Pitta* was brought to me in a cage. It was said to have come from Yeu-chow Foo in this province, and had evidently been long in a cage, as the lower mandible had outgrown the upper, and the bird had all the appearance of a prisoner. It answered fairly to the description of *P. nympha* in the 'Fauna Japonica,' which was based on a drawing taken by a Japanese artist at Nagasaki from a bird said to have been brought from Corea. I announced this discovery to the Secretary of the Zoological Society; and my note on the subject was published in P. Z. S. 1873, p. 730. It devoured grasshoppers greedily, and had a wailing cry like that of a puppy dog in distress. On the 20th August it died, and proved to be a male.

That this bird is *P. nympha* there cannot be a shadow of a doubt, answering as completely as it does to the figure and description of that species in the 'Fauna Japonica.' Its sole difference is in the want of the black chin; but this addition in the plate is evidently an artistic error. Its nearest ally is my *P. oreas,* from Formosa, from which it chiefly differs in being rather paler in the ground-colour of the underparts, and in having a larger tarse and longer toes. The throat of *P. nympha* is more decidedly white; the green of its mantle is somewhat more yellow; and the sanguineous middle line of its belly mounts higher. Both want the white crescent on the black axillaries, but are otherwise closely allied to the *P.-coronatus* group of India.

[To be continued.]

XLIV.—*Notices of recently published Ornithological Works.*

Those who know the bulk and cost of our county-histories will be thankful to Mr. Mansel-Pleydell for having printed in a separate form and octavo size his natural-history contributions to the new edition of Pulteney's 'Dorsetshire,' now in course of publication. These consist of a Dorset 'Flora,' a Dorset 'Ornithology,' including a "List of the rarer birds of the County," and a similar treatise on its 'Conchology'*. Strictly speaking, we have only to do with the second of them; but the "Introduction" to the 'Flora' contains a good account of the physical geography of the district, which deserves the attention of our readers, since too many local naturalists are apt to overlook that essential coefficient of all Faunas. Dorset has hitherto not been favoured by ornithologists, and no list of its birds has appeared since Pulteney's 'Catalogue' in 1799 (?); while it has been also remarkably deficient in well-placed observers, and thus, doubtless, many a winged windfall to its coast has escaped enrolment in the "British List." Portland itself, one would think, should be another Heligoland, attracting storm-tossed stragglers from afar; yet Portland makes little figure in our author's work. Poole Harbour, with its many bays and backwaters—looking from the Lytchett heights more like a West-Indian lagoon than any thing else in this island—has, indeed, long been famous for the number of rare water-birds which have fallen to the craft of the numerous gunners who once frequented its shoals; and one of the valleys which thence stretches westward has yielded by far the majority of English examples of *Scolopax sabinii*, while another furnished the type specimen of *Botaurus lentiginosus**. Lord Ilchester's swannery on the Fleet is probably unique in the world; for where else can be seen on one water upwards of a thousand living examples of *Cygnus olor*? Mr. Mansel-Pleydell has unwittingly deprived his county of the distinction of having produced the sole European specimen of *Picus pubescens*; for the specimen which he records as shot near Whitby was a *P. villosus* (*cf.* Zool. pp. 2496 and 2985). A complete account of the Birds of Dorsetshire has yet to be written; but when that is done the present treatise will give valuable aid to the author, whoever he may be.

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* Flora of Dorsetshire &c. By John Clavell Mansel-Pleydell, B.A., F.L.S., F.G.S. London and Blandford, 1874, 8vo, pp. 320.

Ornithology and Conchology of the County of Dorset. By the same. pp. 120.

The demand for works on the ornithology of particular districts seems to be ever on the increase; and within the last few years numbers of such books, of more or less merit, have made their appearance. The scene of Dr. Saxby's 'Birds of Shetland'† is well chosen, as the book treats of the ornithology of a group of islands situated at a sufficient distance from the mainland to render easy the question of boundaries, often perplexing to writers on county or local faunas.

The chief excellence of Dr. Saxby's book consists in its field-notes, which bear the stamp of having been written almost out of doors. This merit often carries with it a corresponding disadvantage, which we think observable in the present case. We notice a want of appreciation of the necessity of acquiring a well-digested knowledge of the external range of the birds found in the Shetland Islands. This is shown by the scanty references scattered through the work; Gray's 'Birds of the West of Scotland' is occasionally quoted. The birds of the Faroes are barely alluded to, still less those of Iceland or the Scandinavian peninsula. It is in the pages of the 'Zoologist,' in which journal a large proportion of the notes in the present volume have appeared, that the author has sought his chief instruction. At the end of the work the editor has appended a list of the species observed in Shetland up to the present year; they are 202 in number, nearly a third of which were added to the Shetland list by Dr. Saxby. There are several birds included in the work, upon doubtful authority, which had better have been omitted altogether, such as the Cuneate-tailed Gull and Dusky Petrel; their insertion only gives rise to utterly unprofitable discussions as to whether the birds really were what the author supposed them to be.

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* Montagu, Orn. Dict. App. pl.

† The Birds of Shetland, with Observations on their Habits, Migration, and occasional appearance. By the late Henry L. Saxby, M.D. Edited by his brother, Stephen H. Saxby, M.A. Edinburgh: 1874, 8vo, pp. 398.

In a note speculating on the origin of the name "Boatswain" as applied to the Arctic Skua, the Editor does not appear to be aware that the same name is applied universally by sailors to the perfectly (so far as Gulls are concerned) inoffensive Tropic birds (*Phaeton*). It is well known that the long tail-feathers of the bird of tropical seas are supposed to represent a marline spike. Whether the masterful manner of the Skua gained it the name of the "Bosen," and the long tail feathers were accounted for as being his marline spike, and the name was thus transferred to a bird which also carried a long tail, or the possession of a marline spike suggested the name of "Bosen" in both cases, it is difficult to decide. We have not been able to find any authority for the supposed Scandinavian name "Bosun," suggested by Mr. Stephen Saxby, which, if really in use, may be only an adaptation of the English word.

Mr. Brockholes's paper on birds observed in Wirral, Cheshire, forms No. 1 of the 'Proceedings of the Chester Society of Natural Sciences,' and contains notes on 168 species which have occurred in the district. Wirral, we believe, is that part of the county palatine which lies between the estuaries of the Dee and the Mersey. So situated, we should have thought the number would be larger; but to make it up the author has been compelled to enlist the Black Swan (*Cygnus atratus*) in his forces, though he admits that he is "not certain that the bird referred to was really a wild one."

The notes do not seem to include any thing of novelty, the most remarkable facts mentioned (the breeding of *Tringa cinclus* and *Mareca penelope* in the district) having been before recorded on the author's authority in our pages (Ibis, 1865, pp. 438, 444).

On the completion of each of his great works, Mr. Gould has published the 'Introductions' in an octavo volume. This plan has been of great assistance to working ornithologists making references to such large books. The volume* now before us contains the introductory matter accompanying 'The Birds of Great Britain,' on the completion of which we have recently had occasion to congratulate Mr. Gould.

Since our last notice of Mr. Dresser's 'Birds of Europe'†, four more numbers have been issued.

A number of Sylviidæ are figured and treated of in these parts, including some Saxicolinæ, an intricate group which Mr. Dresser and Mr. Blanford have carefully worked out in a recently published part of the Zoological Society's 'Proceedings' (1874, p. 213 *et seqq.*). Progress is also made with the genus *Lagopus*; and interesting notes, illustrated by a plate, are given of the shedding and growth of the claws and the assumption of the feathers on the toes at certain seasons by *Lagopus albus*. The Corvidæ, Certhiidæ, Glareolidæ, Cuculidæ, Hirundinidæ, Accipitres, Sturnidæ, Cypselidæ, Anatidæ, Laridæ, and Procellariidæ, all come in for a share of attention. In the double number the profuse synonymy of that unfortunate bird, the Yellow-browed Warbler of Latham, *Phylloscopus superciliosvs* (Gmelin) is very fully worked out by Lord Walden. The extent to which this poor bird has been misnamed can be realized by glancing at its list of synonyms, which occupy nearly two quarto pages of Mr. Dresser's work!

As we have frequently spoken in terms of praise of this admirable work, suffice it to say that the present numbers evince the same unflagging zeal and care on the part of the author which has characterized the earlier portion of the book.

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* Introduction to the Birds of Great Britain. By John Gould. London: 1873. 8vo, pp. 135.

† A History of the Birds of Europe. By H. E. Dresser. Parts xxviii., xxix. & xxx. (double part), xxxi. May, July, and August, 1874.

Signor Adolfo Savi has published the first volume of an 'Ornitologia Italiana'* by his celebrated father, which on the latter's death was almost ready for the press, and shows that he laboured to the last with unabated energy in the field which saw some of his earliest successes more than fifty years ago; for his Catalogue of the Birds of Pisa appeared in 1823. The force of habit may naturally account for the old-fashioned arrangement of the Class continued in the present work. We have *Coracias* following the *Laniidæ,* and itself followed by the *Corvidæ*; next to them comes the "Tribù *Corticicoli,*" made up of *Nucifraga* and *Sitta*—an odd conjunction; and the *Hirundinidæ* are placed between *Caprimulgus* and *Cypselus*; while the whole volume shows an almost unquestioning faith in the gospel according to Temminck's 'Manuel'—one of the most dangerous errors in which an ornithologist can indulge. But there is little use in criticising the adherence of veterans to their ancient ways. Almost all naturalists have but to live long enough to fall somewhat behind the age; and the venerable professor of Pisa was no exception. Still we should be misleading our readers if we were to induce the belief that the book is entirely antiquated. Very much is it otherwise, and we rejoice to see the adoption in it of many new ideas, not the least of which is that since Italy ceased to be the "geographical expression" it used to be termed, the author bethought him of extending his old 'Ornitologia Toscana' to an ornithology of the whole country; and the result is not unworthy of the regenerated nation. In his introduction Savi treats at some length on the method of dividing Birds into two great groups, *Altrices* and *Præcoces,* first instituted by Prof. Sundevall in 1836, and in 1840 adopted by Bonaparte†. Much is unquestionably to be urged in favour of

* Ornitologia Italiana, opera postuma del Prof. Comm. PAOLO SAVI, Senatore del Regno. Volume Primo. Firenze: 1873. 8vo, pp. 478.

† Mr. Newman has lately intimated (Zool. 1874, p. 4095) that this notion originated with him, and was propounded to the Zoological Society

such a separation of the Carinate Birds; but it is not easily carried out. Where are the *Caprimulgidæ* to be lodged? and what is to become of the *Steganopodes*? Doubtless one of these days such difficulties may be got over; but that happy time seems as yet far off, and for the present we are content to prefer the "anatomical" (which we trust we shall offend none by declaring to be the *true* "zoological") method to the so-called "physiological." In the hope that this notice may meet the eye of Signor Savi, though our pages seem to have been unknown to his father, we may suggest his inserting in page 435, line 20, the words "Savi's Warbler"—that being the name given by British ornithologists to one of their most valued treasures, to the history of which they have contributed not a little; and we can assure him on our own testimony that there is no doubt as to the parasitic habits of *Oxylophus glandarius* (*cf.* Ibis, 1859, p. 316). *A propos* of Prof. Savi and Italian ornithology, we may remark that there seems to have been an error, which was first pointed out by Dr. Salvadori (Fauna d'Italia: Uccelli, p. 76), in M. de Selys-Longchamp's paper in this Journal some years ago: for "Merle maritime" (Ibis, 1870, p. 452) we ought to read "Merlo montano."

Mr. Hume has recently published all the information he could rake together concerning the eggs and nests of Indian birds*. The object of the volume is to give information to his numerous correspondents as to the extent of his knowledge on these subjects, in order that they may supplement it by further observations and discoveries.

'The Birds of Great Britain' being now completed, Mr. Gould is turning his strength on to 'The Birds of Asia'†,

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on the 12th of March, 1850. There can be no doubt of the inventor of of the names "Hesthogenous" (!) and "Gymnogenous" having then conferred them on the two groups of birds, unconscious that his "*First* Thoughts on the Physiological Classification of Birds" had already occurred to the eminent Swedish naturalist above mentioned.

* Nests and Eggs of Indian Birds. By Allan Hume. Rough Draft. Part I. Calcutta: 1873. 8vo, pp. 236.

† The Birds of Asia. By John Gould. Part xxvi. Folio. London: Aug. 1st, 1874.

a work of indefinite dimensions, which, having now reached its twenty-sixth part, bids fair to be the most comprehensive, though not the most homogeneous, of all the colossal works of the author. One new species is described in this part and called *Paradoxornis austeni*, after Major Godwin-Austen, who discovered the species in the Naga Hills, near Kuchai, and at Shillong, in the Khasi Hills.

In 1865 M. Mulsant, in conjunction with the brothers Verreaux, published a small volume entitled 'Essai d'une Classification Méthodique des Trochilidés ou Oiseaux-Mouches' (*cf.* Ibis, 1867, p. 126). In their introduction the authors referred to a forthcoming Monograph of these birds, the publication of which M. Mulsant, the sole survivor of the three, has now courageously commenced*.

It is contemplated that the whole work will comprise four volumes, each containing four livraisons. Each of the latter will be illustrated with four or five coloured plates containing figures of the chief genera; the total number of plates will therefore be about 72. Should, however, a sufficient number of subscribers be forthcoming, plates figuring all of the remaining species will be issued.

Though the 'Essai' contained some serious errors, it had the decided merit of being an attempt to give differential characters for the various genera and higher groups of Trochilidæ.

The new work does the same; but the primary divisions, as well as the genera, are defined by emphasizing characters not brought into the same prominence in the former essay. The feathering of the base of the beak was first used to form two tribes, "Trochiliens" and "Ornismiens;" now the shape of the tail-feathers is employed to indicate three such groups, called "Trochiliens," "Lophorniens," and "Ornismiens." The minor divisions are also defined from different characters, but still the method of treatment employed in their analysis is the same. M. Mulsant adheres to his terms "mâchoire" for what we prefer to call the mandible of the beak, and "mandibule" for the upper mandible or maxilla, which is to be regretted, as ornithologists are not likely to adopt his nomenclature. A Latin description is given of each species as well as a French one. Minute measurements and full synonymy with references make this part of the work very complete. The geographical distribution of each species is also given; this is of course much more ample than in the former work, and, we are happy to add, more accurate; still we see room for improvement. We can hardly accept Guatemala as comprised within the range of *Eutoxeres aquila* without good authority; nor can we credit the statement that *Phaethornis eurynome* occurs in Chili; nor do we believe that *Campylopterus pampa* inhabits New Granada, it having not hitherto been found southward of the limits of Guatemala.

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* Histoire Naturelle des Oiseaux-Mouches ou Colibris constituant la famille des Trochilidés. Par E. Mulsant et feu Edouard Verreaux. Ouvrage publie par la Société Linnéenne de Lyon. 4to Livraisons 1, 2 Paris: 1873-4

M. Mulsant does not follow Mr. Gould in his excessive multiplication of species, but goes further than any one has yet done in uniting birds hitherto supposed to be specifically distinct. We are not disposed to demur to this treatment, especially as all the so-called races or varieties are mentioned separately in the text attached to the species to which they are said to belong. Having thus briefly noticed the chief features of M. Mulsant's work, which will, when finished, be of great use to those studying this fascinating group of birds, we wish him all success in his undertaking.

After a long interval Professor Schlegel has resumed the issue of his well-known work, the 'Muséum d'Histoire Naturelle des Pays-Bas'*, the 10th livraison of which was published last year. The contents include the Aves Struthiones, the Columbæ, and a review of the Rapaces.

In continuing to place the Dodo and its allies with the Struthiones, Prof. Schlegel occupies what must, we believe, be now considered an isolated position—all who have recently studied the remains of these remarkable birds, with one accord placing them with or near the Columbæ. The position assigned to *Didus* with regard to the Struthiones is still more singular, as the two genera *Didus* and *Pezophaps* are placed between *Rhea* and *Dromæus*.

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* Muséum d'Histoire Naturelle des Pays-Bas. Par H. Schlegel. Contenu de la 10^{me} Livraison: 1. Aves Struthiones, pp. 14; 2. Aves Columbæ, pp. 180; 3. Aves Rapaces (Révue), pp. 156. 8vo: Leyden, 1873.

Nor is this all; the genus *Pezophaps* is made to include *Aphanapteryx broeckii* (*A. imperialis*, v. Frauenfeld [*cf.* Ibis, 1869, p. 265, *et seq.*]), clearly a Ralline bird, and *Miserythrus leguati*, Alph. Milne-Edw. (*P. herberti*, Schl.), a species of the same affinities.

The richness of the Leyden Museum is well exemplified in the fact that the Columbæ are represented by no less than 2309 mounted specimens, skeletons, and crania. In treating this group, Professor Schlegel has followed the plan adopted in the previous portions of his work. In reading through the pages of the present part, we noticed the following points which appear worthy of comment:—

Ianthœnas griseogularis, described in this Journal (Walden and Layard, Ibis, 1872, p. 104, t. 6) from the island of Negros, is here (p. 75) renamed *I. luzoniensis*. The reason for this proposed change is not very apparent; but we suppose that the specimen, having been acquired in 1862, had a MS. name bestowed upon it, which is now (1873) published for the first time. The title must, of course, be consigned from its birth to the limbo of synonyms.

A single specimen of *Chlorœnas nigrirostris* from Guatemala is said to be one of the types of the species. This can hardly be the case, seeing that the bird from which Mr. Sclater took his description was obtained by M. Sallé in Mexico!

Peristera lansbergi (p. 139) is evidently *Peristera mondetoura*, Bp., a rare but widely distributed species, being found from Mexico to Bolivia (*cf.* anteà, p. 99).

Peristera pentheria, Bp., is kept separate from *P. ruficauda* of the same author. Having seen the types in Paris, we believe them to be the sexes of one species, which should be referred to the genus *Zenaida* and stand as *Z. ruficauda*.

Melopelia meloda is united with *M. leucoptera*; but we believe they are quite distinct though congeneric species.

In his treatment of the species of the genus *Leptoptila* (p. 158 *et seqq.*) Prof. Schlegel has fallen into great confusion. The bird called *L. jamaicensis* is probably *L. verreauxi*. The true *L. jamaicensis*, probably the bird here called *L. albifrons*, is purely Antillean, whereas *L. verreauxi* is found in the northern portions of South America and as far north as Costa Rica, being replaced in Guatemala by *L. albifrons* (not the bird here so called). The bird called *L. cassini*, from Mexico (Guatemala?), is *L. cerviniventris*, as Prof. Schlegel would at once have seen had he possessed specimens from Panama. The genus *Geotrygon* is suppressed, and the species usually included in it are placed in *Starnœnas*, a name solely applicable to *S. cyanocephala*. This species alone, amongst American Pigeons, has reticulated tarsi, like *Goura*!

The last portion of this livraison contains a review of the Birds of Prey. We notice (p. 14) that Wagler's name *Scops trichopsis* is placed as a synonym of *S. flammeola*! this is quite wrong (*cf. anteà*, p. 314). The Kestrel of the Island of St. Vincent, of the Cape-Verd group, is characterized under the name of *Falco neglectus*; this Mr. Sharpe (Cat. B. i. p. 428) considers to be only a dark race of *F. tinnunculus*.

Circus poliopterus (p. 49), treated as a separate species, is the female of *C. cinereus*. *Astur hensti* (p. 62) is described as a new species from Madagascar; its nearest ally appears to be *A. palumbarius*.

The Sparrow-hawk from Bogotá, called (p. 70) *Nisus erythrocnemius*, must surely be *A. ventralis*. This, too, would have been apparent to Prof. Schlegel had he possessed Brazilian specimens.

All the North-American Buzzards except *B. lineatus* and *B. pennsylvanicus* are united to *B. borealis* (p. 107). These birds have been carefully worked out by Mr. Ridgway (N. Am. B. iii. p. 244 *et seq.*), whose views, by far the most correct, we believe, that have yet been published, differ widely from those of Professor Schlegel.

The appendix to Mr. Brenchley's 'Cruise of the Curaçoa'* contains, amongst other articles, one by the late Mr. G. R. Gray on some of the birds collected during the voyage. Mr. Gray did not live to see his contribution through the press; but all of the new species seem to have been previously described in the 'Annals and Magazine of Natural History' for 1870. These, as well as some others, are now illustrated on 21 excellent plates by Smit. The species figured are:—*Accipiter albogularis*, Gray, from San Christoval I.; *Collocalia hypoleuca*, Gray, from Uji or Gulf I., and *C. uropygialis*, Gray, from New Hebrides; *Eurystomus crassirostris*, Scl., from Uji; *Glyciphila caledonica*, Gray, from New Caledonia, and *G. flavotincta*, Gray, from Eramanga I.; *Philemon sclateri*, Gray, from San Christoval; *Anthochera aubryana*, J. Verr. & Desm., from New Caledonia; *Zosterops flavifrons*, Gmelin, from New Hebrides, and *Z. xanthochroa*, Gray, from New Caledonia; *Myiagra melanura*, Gray, from Vanua Lava, Banks's group, and *M. caledonica*, Bp., from New Caledonia; *Rhipidura spilodera*, Gray, from Vanua Lava; *Lalage banksiana*, Gray, from Vanua Lava; *Pachycephala chlorurus*, Gray, from New Hebrides; *P. moriariensis*, Verr. & Desm., from New Caledonia, and *P. xanthetræa*, Forster, from New Caledonia; *Eopsaltria caledonica*, Lath., from New Caledonia, and *E. cucullata*, Gray, from New Hebrides; *Lorius hypœnochrous*, Gray, from the Solomon Is.; *Trichoglossus massena*, Bp., from San Christoval and New Hebrides, and *T. palmarum*, Gmel., from New Hebrides; *Cuculus bronzinus*, Gray, from New Caledonia; *Carpophaga brenchleyi*, Gray, from San Christoval; *Macropygia crassirostris*, Gould, from the I. of Guadalcanar, Solomon Group; *Megapodius brenchleyi*, Gray, from Tanna and Sandwich* or Vate I., New Hebrides; and *Eulabeornis lafresnayanus*, Verr. & Desm., from New Caledonia.

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* Jottings during the Cruise of H.M.S. 'Curaçoa' among the South-Sea Islands in 1865. By Julius Brenchley, M.A. Large 8vo. pp. 474. London: 1873.

We believe that many of the specimens collected by Mr. Brenchley are in the British Museum; the rest are to be seen in the museum at Maidstone, in Kent, of which Mr. Edward Bartlett is now Curator.

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* Not the Sandwich Islands, as stated, Ibis, 1871, p. 440.

Dr. Elliott Coues's 'Field Ornithology'* is an admirable manual, teaching the whole duty of an ornithologist in pursuit of his craft. Though the work professes to teach beginners, there are in its pages many suggestions of sound sense from which even practised hands may take some hints. The instructions laid down are excellent, as a whole; but at the risk of being called addicted to the use of a "nasty greasy substance," we must say we do not share the author's dislike to arsenical soap. Skins of tropical birds dressed with arsenical soap are certainly more pliant and less liable to crack than those treated with dry arsenic. Both preparations are probably equally efficacious in preventing the subsequent attacks of insects.

As regards these pests, we must say that our ornithological brethren in America are to be pitied, judging from a whole paragraph (p. 106) devoted to a description of the ravages committed by Tineidæ and Dermestidæ (*Dermestes* and *Anthrenus*) upon their bird-skins. Taking the destructiveness of insects as his text, Dr. Coues draws, in the final words of this part of his book, an admirable moral. The constant study of skins "is the best preventive," he says, "against 'bugs.'" "The very bugs," he adds, "urge on our work."

The second portion of 'Field Ornithology' contains a check-list of the birds found in North America. 635 species and "varieties" are included in the ornis of North America, amongst which are many of the latter. It may be remarked that in this list the new Transatlantic system of nomenclature is here carried to its full extent. Alas for the binominal system of Linnæus, when we find that the Latin equivalent of the Californian Jay has to be expressed as "*Aphelocoma floridana,* Bartram, Cabanis, variety *californica,* Vigors, Coues"! A return to the nomenclature of the days of Ray would be a relief to this.

Another work by the same prolific author is an account of the ornithology of the Prybilov Islands†. We believe that only an extremely limited number of copies of this pamphlet have been printed The one before us is is made up of printer's proofs sent by the author to Mr. Dresser. This is to be regretted, as the chief portion of the paper consists of notes of birds observed and collected by Mr. W. H. Elliott, many of which are interesting, especially those on the singular Alcidæ of the North Pacific. In this paper, too, *Tringa ptilocnemis* is described for the first time by Dr. Coues. This species has already to carry a synonym, it having been described by Mr. Harting, from Mr. Elliott's specimens sent to him by the Smithsonian Institution, as *Tringa gracilis* (P. Z. S. 1874, p. 242, Aug. 1st).

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* Field Ornithology, &c. By Dr. Elliott Coues, U. S. A. 8vo, pp. 116 & 137. Salem, Mass.: 1874.

† Ornithology of the Prybilov Islands. By Dr. Elliott Coues, U. S. A. Oblong 4to. 1873.

XLV.—*Letters, Announcements, &c.*

The following letters, addressed "To the Editor of 'The Ibis,'" have been received:—

DEAR SIR,—Allow me to make a few observations upon some of the birds referred to in 'The Ibis' for April 1874.

PHYLLOPNEUSTE BOREALIS, Blasius, p. 140.

Lord Walden of course knows that *P. magnirostris*, Blyth, is exceedingly like *P. borealis*—so much so, that Mr. Hume ('Stray Feathers,' i. p. 495) confounded the two. I am anxious to know if Lord Walden is certain in this identification of No. 79 as *P. borealis*.

I examined a few of Mr. Swinhoe's Chinese examples of *P. borealis* (*P. sylvicultrix*, Swinhoe) in the Indian Museum; and although of the same size and colour, between the two birds I found the following differences:—

1. The first primary of *P. borealis* is very minute, and almost *Acrocephalus*-like, as in *P. sibilatrix*; while in *P. magnirostris* it is of tolerable size and *Hypolais*-like, as in *H. polyglotta* and *H. rama*.

2. The 2nd quill of *P. borealis* is equal in length to midway between 5th and 6th, as in *P. trochilus*; while in *P. magnirostris* the 2nd quill is about equal to the 9th, the latter bird's wing being more rounded.

P. magnirostris, Blyth, is the bird, I believe, hitherto procured from the Andamans. Will Lord Walden kindly inform us, with the points of difference I have noted before him, whether he still considers the birds procured by Lieut. Ramsay to be *P. borealis*?

ANTHUS CERVINUS (Pallas), p. 141.

I am surprised that the axillaries should be white. Our Indian *Anthus rosaceus*, Hodgson, which I take to be *Anthus cervinus*, Pallas, as a rule, has the axillaries strongly tinged with sulphur-yellow. I must say I should much like to see one of these Andamanese Pipits. I have failed to obtain the loan of one from Mr. Hume, who informs me he has a distinct Andamanese Pipit; but until I see it myself I shall not be convinced.

CORYDALLA STRIOLATA (Blyth), p. 140.

Lord Walden says he is "disposed to doubt the propriety of separating this form from *C. rufula*." I have large series of each, and know them well in life. A small *C. striolata* much resembles a good-sized *C. rufula*; but I can, I think, always distinguish them.

1. *C. rufula* has, as a rule, a proportionally longer hind claw and a larger bill.

2. *The two voices are utterly different.*

3. *C. striolata* is a *migrant*, appearing very numerously in the plains of India in September; but *C. rufula* is *non-migratory*, and breeds over India generally.

Lord Walden may rest assured that there are no two species more distinct than these two Pipits. Perhaps the Andaman birds *are C. rufula*, and have been misnamed "*C. striolata*;" I should much like to see one. Even if there were absolutely no visible difference, the utterly different notes and habits must not be lost sight of. *C. richardi*, *C. striolata*, *C. rufula*, and *Anthus campestris* can all be recognized with one's eyes shut, merely by *hearing* them, and this with the greatest certainty.

We must not suppress a good species, if it can be avoided.

Milvus melanotis (J. & S.), p. 150.

I have also a very fine large rufous bird. The excess of rufescence is, as Mr. Swinhoe observes, accidental.

I regard *M. govinda* (Sykes), on account of the great size noted in the original description (P. Z. S. 1832, part ii. pp. 80–81), as identical with *M. melanotis* (J. & S.). No common Indian Kite is 26 inches long.

That *M. major*, Hume,=*M. melanotis* (J. & S.), I have on Mr. Gurney's authority, who informs me that Mr. Sharpe compared examples of *M. major* with the types of *M. melanotis* in the Leyden Museum, and found them absolutely identical. That *M. melanotis* (T. & S.)=*M. govinda* (Sykes) I think, judging from the original description, there is but little doubt. I propose dropping the use of the synonyms *melanotis* and *major*, and reverting to Sykes's original term.

Our common Indian Kite, so long erroneously called "*M. govinda*" is *M. affinis* (Gould), and identical with the Australian bird. Mr. Gurney returned me one of our common village Kites as typical *M. affinis*.

Certhia familiaris (L.), p. 152.

Is certainly not that species, but probably my *C. hodgsoni*, which I obtained in Cashmere (J. A. S. 1872, p. 74).

Phyllopneuste schwarzi (Radde), p. 183.

This bird was identified with *P. viridanus* (Blyth) by Canon Tristram (Ibis, 1871, p. 109). If the identification was correct, why does Mr. Swinhoe not adopt the prior term for the bird?

Yours &c.,

W. E. Brooks.

Mogul Serai,
24th July, 1874.

Vienna, 29th August, 1874.

Sir,—In my paper "On the Birds in the Imperial Collection at Vienna obtained from the Leverian Museum" (Ibis, 1873, p. 113), *Pithys rufigula* (Bodd.) is mentioned, with the remark that the specimen is no longer in the collection.

This determination was founded on the inventory, in which the bird is named *Turdus pectoralis,* which synonym really belongs to *Pithys rufigula.*

Since I wrote this I have found in the collection the specimen in question, labelled *"Turdus modestus,* Natterer," which designation was also added in the inventory. In the old catalogue and on the label of the specimen was also written :—" Von H. Fichtel, 1806, N. 200, Auction N. 1413, fœmina, Christian's Isle under the Line."

On examination, the bird proved to be *Phæornis obscura* (Gmel.). It agrees, though marked as female, very well with Cassin's description of the male (Unit. Stat. Expl. Exp. p. 155, t. 9. f. 3); and I scarcely doubt that it is the type of Latham's Dusky Flycatcher (Gen. Syn. iii. p. 344), which was contained in the Leverian Museum, and therefore also of *Muscicapa obscura,* Gmel. The only difficulty which could arise would be the habitat. Christian's Isle I cannot find; and its situation under the Line would be in discordance with that of the Sandwich Islands.

Phæornis is decidedly a Pachycephaline bird, whereas I am of opinion that *Chasiempis sandwichensis* belongs to the Muscicapidæ. The latter shows highly developed rictal bristles, some of which reach as far as, or even surpass the middle of the bill.

Our Museum is in possession of a pair of *Chasiempis sandwichensis* from Enero, Ohan, 1837, bought by Natterer, 1840, at Berlin, from H. Deppe.

Latham's description is in tolerable accordance with our female; but in the latter the bill is not yellowish at the base, the wing-coverts are edged with white, not with pale rust-colour, the quills not white-tipped (probably a misprint in Latham's book); on the sides of the neck there is no admixture of white; and on the chin dusky streaks are wanting or almost imperceptible; of the white uropygium no mention is made.

I am, very truly yours,

Pelzeln.

Northrepps, 3 September, 1874.

Sir,—I regret to find that I appended a wrong name to an Egret sent by Mr. Ayres from Trans Vaal, in 'The Ibis' for the present year, p. 104, and No. 204 in Mr. Ayres's list.

The species there referred to under the head of *Herodias garzetta* should have been inserted as *H. intermedia*, Wagl.

I am yours, &c.,
J. H. Gurney.

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33 Carlyle Square, London, S.W.
18th September, 1874.

Sir,—In my paper "On Birds from Hakodadi," published in 'The Ibis' for April 1874, under "35. Eastern Bullfinch, *Pyrrhula orientalis*," I note that I received from Mr. Blakiston "a male and female without date." On reexamining these specimens lately, I observed that the male was typical both in size and colour, whereas the female was large and has a wash of white along the web on each side of the stem of each outer tail-feather. From this last character I argued that I had from Hakodadi a female *P. cassini*, Baird.

From the Kurile Islands I have a pair of *P. orientalis*, sent me by Von Schrenck. The male is typically coloured; the female has an indistinct white patch on the underside of the outer rectrix. Of another pair from Hakodadi, collected by Mr. H. Whitely, both have more or less white on the part indicated, and the male has a rosy blush over the grey underparts. At this juncture, Mr. Taczanowski, of Warsaw, sent me a male of the larger size, marked *P. coccinea*, from Ussuri. This has a distinct white tail-patch. To compare with this, Mr. Dresser kindly lent me a male *P. coccinea* from Moscow. The latter had the red mixed with yellow, as in our common Bullfinch, and no signs of the white on the tail. I asked to borrow a female. He sent one received from Greece; and on the tail of this occurred a white patch, though small. This certainly shakes my confidence in *P. cassini*; and until we get adult males from Hakodadi, it will be impossible to say for certain whether my present specimen is *P. cassini* or a phase of *P. coccinea*, which we have evidence to show extends east as far at least as Russian Mantchuria. M. Taczanowski sent also a pair of the fine grey Bullfinch—the male from the Ussuri, the female from the River Onon. The former has a clear tail, the female has the white patch strongly pronounced. The white tail-patch, therefore, can scarcely be accepted as a fixed character; and I should be rather inclined to suggest that *P. cassini* be a hybrid (strongly as I object to the idea in face of the Development theory) between two species, say *P. coccinea* and *P. cineracea*. Temminck, I see, says (Manuel, iii. p. 249, under "*Pyrrhula vulgaris*"):—"On la trouve en Sibérie, et jusqu'au Japon;" but in those days they had not, I believe, recognized the larger form to which De Selys-Longchamps subsequently gave the name *P. coccinea*.

Yours, &c.,
ROBERT SWINHOE.

XLVI.—*Obituary.*

WE regret to have to record the premature death, during the past year, of one of the original founders of our association. The Rev. WILLIAM HENRY HAWKER, of Ashford Lodge, near Petersfield, vicar of the parish of Steep, in which his property was situated, although not an actual contributor to these pages, was a personal friend of many of us, and an ardent supporter of natural science.

Mr. Hawker was the fifth son of the late Admiral Hawker, and was born in Dec. 1827. He was educated at Rugby and Trinity College, Cambridge, and, after taking his degree, studied for the church at Wells. After taking Orders, he was for some years curate of Idsworth, near Horndean, in the south of Hampshire, and removed to Ashford on succeeding to that property in 1860. Mr. Hawker was owner of a considerable collection of British birds and insects; he was an ardent entomologist, and an excellent botanical collector. He made frequent excursions in various parts of Europe, particularly in Norway, Switzerland, the Maritime Alps of Savoy, and the islands of Corsica and Sardinia. He was an active member of the Alpine Club, and contributed several valuable papers to the 'Alpine Journal,' among which we may mention an account of his travels in Corsica in the spring of 1866, as containing much interesting matter to naturalists. Mr. Hawker died, after a short illness, on the 26th of May last, at the early age of forty-six years.

Commander ROWLAND MONEY SPERLING, of the Royal Navy, became a Member of the British Ornithologists' Union in 1867. Being a keen ornithologist, he availed himself of the scanty opportunities afforded him by his official duties, of collecting and observing the birds that came under his notice during his cruises in different parts of the world. The results were communicated to this Journal. In 1864 he published a paper entitled "Some account of an Ornithologist's Cruise in the Mediterranean." This contains some good notes on the migration and habits of many European birds. When acting-commander of H.M.S. 'Racoon,' he gathered the materials for another paper, which was published in our volume for 1868. His cruising-ground on this occasion was the south-eastern shores of Africa, from the Cape of Good Hope to Zanzibar, and included also a visit to the "wide-awake fair," on the island of Ascension. In this paper the Procellariidæ of those seas came in for a considerable share of attention. Sperling's last communication was published in the form of a letter in 1872. A visit to the island of Tristan d'Acunha is here related, and also a few notes made during an excursion on the Rio de la Plata.

These papers show that the routine of a sailor's life admits of much useful ornithological work being accomplished. We wish we could number more followers in a service where many officers enjoy equal, if not greater, opportunities for pursuing our favourite science.

EDWARD BLYTH, who died in London in December 1873, at the age of sixty-three, was a naturalist of no ordinary type. Though to the readers of 'The Ibis' his name will be chiefly known in its connexion with ornithology, birds by no means formed the only zoological subject of which he possessed very ample knowledge. From 1833 to the time of his death, Blyth worked incessantly; and memoirs were contributed by him to different scientific publications, chiefly to the Journal of the Asiatic Society of Bengal, The Annals and Magazine of Natural History, The Proceedings of the Zoological Society, and to this Journal. For twenty-two years prior to the year 1864 he held the position of Curator in the Calcutta Museum, an institution which profited largely by his energy and ability. It was here that Blyth devoted himself to the study of the natural history of British India and its dependencies, the results of which have connected his name so intimately with the zoology of those countries. After his return to England Blyth continued his favourite work with unabated industry, and was at times almost daily to be seen consulting the library of the Zoological Society. At the Society's meetings, too, he was a frequent attendant.

Blyth's connexion with the British Ornithologists' Union commenced in 1860, when he was elected one of our original Honorary Members. After his return to England he was made an Extraordinary Member, and so continued to the day of his death.

All who knew Blyth were struck with his powers of memory, and the readiness with which names and references found expression. His suggestions on such points, though not always accurate, were seldom wide of the mark.

Some of the earlier writings of Blyth, before he took up his residence in Calcutta, were communicated to Rennie's 'Field Naturalist.' It is curious now to look back to them and see how he leant himself to the prevailing epidemic of that period for changing names of birds supposed to be unsuitably applied. Even our most familiar species, such as the Robin, did not escape. It was the mistaken zeal for the fitness and uniformity of names, regardless of the consequences, so manifested at this time, which provoked Strickland so energetically and successfully to protest. But the spirit of change which prompted Blyth and others in those days is not wholly laid; for ever and anon it reappears in some new form to disturb the peace of ornithological nomenclature. In his later writings Blyth adhered loyally to the "rules of nomenclature."

It will be a matter of regret if the works of so diligent a writer should be allowed to remain diffused, as they are, through so many zoological journals—the more so as the works of our most laborious compilers omit all references to original descriptions, nor do they furnish any clew to where they are to be found, beyond the name of a species and its author. Is there not here a field of activity for some member of our Union? who, by making even an index to the generic and specific names scattered through Blyth's works, would not only honour a great ornithologist's memory, but also, by saving hours of too often fruitless search to his fellow-workers, confer a great boon upon ornithological science generally.

JULES PIERRE VERREAUX was born on the 24th of August, 1807. At the early age of twelve years he accompanied his uncle, the well-known "naturaliste-voyageur," Delalande, to the Cape of Good Hope, where he remained for two years, assisting in preparing the collections which were ultimately sent to the Paris Museum. On his return to Paris he studied in the laboratories of that institution under G. Cuvier and Isidore St.-Hilaire. After the death of his uncle, Jules Verreaux started alone for the Cape of Good Hope in 1825, where, partly in company with Sir Andrew Smith, he worked for five years with such success that he had to send for his brother Edouard to help him to arrange and pack his large collections, and take charge of them to Paris, where, on their arrival, they were arranged for exhibition in the galleries of the Baron B. Delessert.

In 1832 Jules Verreaux again summoned his brother to join him, and till 1837 they travelled together, making expeditions to the Philippine Islands and Cochin-China. In 1838, having amassed large collections, the brothers shipped their treasures on board the trading-vessel 'Lucullus,' they themselves embarking in another ship bound for France. Most unfortunately the 'Lucullus' was totally lost; and the labours of several years, uninsured, perished with her. Undaunted by this heavy loss, Verreaux at the age of thirty-five, again started on his travels, this time selecting New Holland and Tasmania as the scene of his operations. Here, too, success rewarded his toil, and he amassed large collections of insects, birds, and mammals. This was the last of Verreaux's journeys. On his return to Paris he worked for many years in his brother's establishment in the Place Royale, where he undertook to name all the birds that were sent out for sale to the different museums and collections of the world. The tickets attached to the birds sent from the Maison Verreaux are well known to ornithologists; and the names, often coupled with copious synonyms, broe the evidence of having been written by a man possessed of a wide general knowledge of his subject. It may perhaps be said that, though the published works that have been left by Jules Verreaux are few, no man's handwriting is better known than his amongst the ornithologists of the present day.

About the time of the death of his brother Edouard, Jules became one of the "aide-naturalistes" in the museum of the Jardin des Plantes, where he remained until his death, busily employed naming and arranging the ornithological collections of that vast establishment.

After settling in Paris Verreaux devoted the greater part of his time to working at ornithological synonyms and collecting materials for a monograph of the Nectariniidæ, or Sun-birds. On neither subject was he spared to publish the results of his labour. Were Verreaux's contributions to the science of ornithology to be measured by the amount of his published work, the sum could not be considered large; but who can measure his influence upon the progress of ornithology during his time? Being absolutely unselfish as regards any knowledge he might possess, he ever placed it at the disposal of any one who was likely to make good use of it. It may truly be said he sowed freely for others to reap.

In 1860 Jules Verreaux was elected one of our original Honorary Members, and always took a lively interest in the welfare of 'The Ibis.' He contributed several papers to our Journal. Other articles of his are to be found in the 'Nouvelles Archives du Muséum,' chiefly relating to Père Armand David's discoveries in China, in the 'Revue Zoologique,' the 'Proceedings' of the Zoological Society of London, of which Society he was a Corresponding Member, and the 'Bulletin' of the Acclimatization Society of Paris.

We understand that the whole of Verreaux's collection of Nectariniidæ, as well as his manuscripts and a considerable portion of his library, have passed into the Paris Museum, than which no fitter destination could be wished.

By the death of Mr. C. F. TYRWHITT-DRAKE, at the early age of thirty, we have lost another contributor to the pages of this Journal. Though Mr. Tyrwhitt-Drake wrote two very useful papers on the ornithology of Morocco*, his name will ever be best known from his connexion with the Palestine-Exploration Society, with whose aims and objects he worked with the greatest sympathy and zeal. Mr. Drake was for some time a member of Trinity College, Cambridge; but, owing to his health compelling him to pass each winter in a southern climate, he did not take his degree. The winter of several years he spent in Morocco, where he made the collections of birds already spoken of. In 1868 he visited Egypt, and in the following spring he went to Sinai with the surveying party appointed to make the exploration of the Sinaitic peninsula. The following year, assisted by a grant from the University of Cambridge, he accompanied Prof. Palmer in his exploration of the Bâdiet el Tih, or the "Wilderness of the Wanderings." This was his first connexion with the Palestine Exploration Society. After spending some months in this district, Edom and Moab, and other places to the eastward of Arabah, were traversed. After visiting Palestine, Syria, Greece, and Turkey, Mr. Drake returned to England for a short time. He soon, however, undertook, under the auspices of the Palestine-Exploration Society, the investigation of the inscribed stones of Hamath, which have since proved so perplexing to palæographers. Having accomplished this task he joined Captain Burton, then Consul at Damascus, in an expedition to the volcanic districts east of Damascus, and to the highlands of Syria. The materials gathered were published in 'Unexplored Syria,' the joint production of Captain Burton and himself. From this time he devoted his energies to the service of the Palestine-Exploration Society, until, worn with overwork and exposure to a trying climate, he was seized at Jerusalem with an attack of typhoid fever, which proved fatal on the 23rd of June last.

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* "Birds of Tangier and Eastern Morocco," Ibis, 1867, p. 421, and "Further Notes on the Birds of Morocco," Ibis, 1869, p. 147.

FERDINAND STOLICZKA, who died on the 19th June, 1874, at Shayak, between the Karakorum Pass and Leh, in Ladak, was in his thirty-sixth year. Though not an ornithologist in any special sense, he was evidently possessed of more than a superficial knowledge of the birds of the country which was the scene of his labours. As palæontologist to the Geological Survey of India, he seems to have availed himself of every opportunity of increasing our acquaintance with living zoology, thereby adding to the completeness of his own knowledge of his speciality, palæontology. Though Dr. Stoliczka did not contribute to this Journal, a paper of his upon the birds of Province Wellesley (J. A. S. B. 1870, p. 277) formed the subject of an article by Lord Walden, which appeared in 'The Ibis' for 1871, p. 158. Collections of birds made by Stoliczka in the Himalayas and Thibet were described in a paper by our Honorary Member, Herr A. von Pelzeln, which was published in the 'Journal für Ornithologie' for 1868, and was translated by Lord Walden into this Journal in the volume for the same year (Ibis, 1868, p. 302).

Stoliczka also contributed papers on ornithology to the Journal of the Zoological and Botanical Society of Vienna*, and to the 'Journal of the Asiatic Society of Bengal'—the most valuable containing his notes on the birds of the Sutlij Valley, and his notice of the mammals and birds inhabiting Kachh. He was also a contributor to 'Stray Feathers.'

For five years he held the position of Honorary Secretary to the Asiatic Society, and was thus enabled to improve materially the natural-history portion of the Society's 'Journal.'

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* Verh. k.-k. zool.-bot. Gesellsch. Wien, 1866, p. 848.

At the time of his death Stoliczka was returning laden with natural-history spoils from Kashgar and Yarkand, with the mission dispatched by the Government of India under Sir Douglas Forsyth to those distant regions.

His enthusiasm had led him to join this expedition, though strongly urged not to do so on account of the state of his health. His name must be added to the honourable roll of those who, reckoning no risks where science is to be served, have died in the advancement of her cause.

Dr. J. J. KAUP, for many years Director of the Museum in Darmstadt, at one period of his career paid considerable attention to ornithology. Unfortunately his ornithological work was warped and biased by his adherence to a peculiar artificial system much in vogue about forty or fifty years ago, but which has now happily given place to more rational views.

Dr. Kaup's chief ornithological publications are his 'Skizzirte Entwickelungs-Geschichte u. natürl. System der europ. Thierwelt (Darmstadt: 1829), "Monographie der Genera der Falconidæ" (published in the 'Isis' for 1847, and illustrated by two admirable plates by Wolf), and his 'Classification der Säugethiere und Vögel' (Darmstadt: 1844). In these a vast number of new generic names are proposed, some of which have been adopted.

Besides these, Dr. Kaup described a number of species in Sir W. Jardine's 'Contributions to Ornithology,' in the 'Isis,' the 'Proceedings' of the Zoological Society, in 'Wiegman's Archiv,' and in the 'Journal für Ornithologie.' His descriptions are, unfortunately, exceedingly brief and difficult to make out; so that at the present time some of the names he proposed run the risk of falling altogether into abeyance through the insufficiency of the characters accompanying their introduction.

The zoological collection in the Darmstadt Museum, long under Dr. Kaup's charge, though not extensive, has the merit of being in good order, the specimens being very well mounted. In this respect it, and several other collections in Germany, are far in advance of any thing we in this country can show. It seems strange that, though we have for years past attracted the best available foreign zoological artists, our efforts to obtain the best stuffers of birds and other animals appear to have been of the feeblest description. The result is that in our great museums, where alone this, the æsthetic branch of the subject, can and ought to be cultivated on an extensive scale, it is treated with indifference, and thus our galleries rendered far less attractive than they otherwise might be.

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